

JPRS-TEN-90-008
31 JULY 1990



**FOREIGN
BROADCAST
INFORMATION
SERVICE**

JPRS Report

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

Environmental Issues

19980515 166

REPRODUCED BY
U.S. DEPARTMENT OF COMMERCE
NATIONAL TECHNICAL INFORMATION SERVICE
SPRINGFIELD, VA. 22161

DTIC QUALITY INSPECTED 3

Environmental Issues

JPRS-TEN-90-008

CONTENTS

31 July 1990

INTERNATIONAL

Japanese International Trade Ministry Welcomes Summit Communique [Tokyo KYODO 12 Jul]	1
EC Commissioner Assails U.S. Policies at Bergen Conference [Brussels EUROPE 14-15 May]	1
ASEAN Post-Ministerial Conference To Discuss Environmental Issues	
[Kuala Lumpur BERNAMA 26 Jul]	1
South Korea, USSR Sign Accord on Antarctic Research [Seoul YONHAP 13 Jul]	2
Nauru Seeks World Court Action Against 'Exploiters' [Hong Kong AFP 20 Jul]	2
Opposition to USSR-PRC Amur River Damming Project Noted	
[V. Dolgodvorov, I. Krasikov et al; Moscow TRUD 19 May]	3
Brazilian Minister Praises FRG Offer for Ecological Project [Brasilia Radio 17 Jul]	5
French Cooperation in Africa To Stress Environmental Issues	
[Victoria SEYCHELLES NATION 11 Jun]	6
FRG Minister Discusses Plans for Environmental Grant to Brazil [Rio de Janeiro TV 19 Jul]	6
FRG Minister Opens UN Environmental Congress in Saarbruecken	
[Duesseldorf HANDELSBLATT 29 May]	6
Tallinn Agreement Signed on Baltic Sea Protection [Riga Radio 2 Jul]	7
Soviet, Swedish Officials Discuss Baltic Ecology [Moscow TASS 26 Jul]	7
USSR's Ryzhkov Discusses Baltic Ecology Forum With Swedish Envoy [Moscow IZVESTIYA 27 Jul] ..	7
Norway Documents Acid Rain Damage; European Strategy Stressed [Oslo AFTENPOSTEN 30 Jun]	8
Norway's Role in International Environmental Policy Examined [Oslo AFTENPOSTEN 25 Jun]	8
EC Environmental Program for East Europe [Brussels EUROPE 30 May]	10
Hungarian Official Comments on Damage Done by Soviet Troops [Budapest Radio 12 Jul]	11
Hungarian Gabcikovo Commissioner Interviewed [Bratislava Radio 16 Jul]	12
Austrian Minister Calls for Closure of CSFR Nuclear Plant [Vienna ORF Teletext 17 Jul]	12
Austria's Vranitzky Asks CSFR for Statement on Bohunice Plant [Vienna Radio 18 Jul]	12
Austria's Vranitzky Wants To Send Experts to CSFR Nuclear Plant [Vienna Radio 20 Jul]	13
CSFR Memorandum to Austria Over Nuclear Station [Prague CTK 20 Jul]	13
Austria's Vranitzky Responds to Czechoslovak Memorandum [Bratislava Radio 20 Jul]	13
CSFR Envoy Presents Note to Austria on Bohunice Nuclear Plant [Vienna Radio 23 Jul]	13
Austrian Minister on CSFR Nuclear Plant Inspection [Vienna Radio 23 Jul]	14
Austrian Minister on Shutting Down CSFR Nuclear Plant [Prague TV 23 Jul]	14
CSFR Minister on Nuclear Plant Talks With Austria [Prague TV 23 Jul]	14
CSFR Minister Assesses Talks With Austria on Nuclear Plant [Prague CTK 24 Jul]	15
CSFR Commentator Rejects Austrian Nuclear Energy Pressure	
[Bratislava NARODNA OBRODA 20 Jul]	15
Romania Denies Nuclear Power Plant Deal With Spain [Bucharest Radio 26 Jul]	16
CSFR To Continue Nuclear Plant Operation; Austrian Views Rejected [Prague CTK 26 Jul]	16
CSFR's Havel Invites Austrians To Check Bohunice Plant [Vienna WIENER ZEITUNG 27 Jul]	17
CSFR-Austrian Talks on Bohunice Inconclusive [Prague HOSPODARSKE NOVINY 26 Jul]	17

AFRICA

LESOTHO

Nation Loses 40 Millions Tons of Soil Annually [Maseru Radio 20 Jul]	19
--	----

MOZAMBIQUE

Norwegian Group Finances Reforestation Project [F. Henriques; NOTICIAS 30 May]	19
--	----

SOUTH AFRICA

Post-Apartheid Environmental Issues Addressed	20
---	----

Albie Sachs on Policy [E. Koch; THE WEEKLY MAIL 25-31 May]	20
Front Line States' Role [THE WEEKLY MAIL 25-31 May]	21
Apartheid 'Culprit' [E. Koch; THE WEEKLY MAIL 25-31 May]	22

CHINA

Foreign Scholars Study Northeast China's Forest Ecology [XINHUA 21 Jul]	23
PRC Environmental Official Outlines International Views [XINHUA 21 Jul]	23
Song Jian Urges Building, Management of Nature Reserves [XINHUA 23 Jul]	24
Progress Reported in Extension of Nature Reserves [XINHUA 21 Jul]	24

EAST ASIA

INTER-ASIAN

Pacific Forum To Focus on Environmental Issues [Melbourne International 26 Jul]	26
New Zealand's Palmer Welcomes Japanese Driftnet Fishing Suspension [Melbourne International 18 Jul]	26
Taiwan To Continue With Driftnetting Until Mid-1991 [Hong Kong AFP 18 Jul]	26

INDONESIA

74 Million Acres of Forest To Be Cut for Farming [Hong Kong AFP 11 Jul]	27
---	----

SOUTH KOREA

Oil Spill off Inchon Coast Contaminates Widening Area [THE KOREA TIMES 17 Jul]	27
Oil Tanker Collisions Endanger Sea Life [THE KOREA HERALD 21 Jul]	27
Residents Oppose Alleged Titanium Dioxide Plant Construction [YONHAP 26 Jul]	28

LAOS

Forests Along Borders Declared Protected Zones [PASASON 30 May]	28
---	----

THAILAND

Deputy Minister Views Pollution Issues [SIAM RAT 10 Jun]	29
Impact of Salt Farms on Northeast Water Supplies [DAILY NEWS 29 Apr]	30
Tha Chin River Pollution, Control Measures Discussed [THE NATION 12 Jun]	31

VIETNAM

Radio Notes Continuance of Forest Destruction [Hanoi Radio 24 Jul]	32
--	----

EAST EUROPE

INTRABLOC

Bulgaria, Romania Hold Preliminary Ecological Talks in Ruse [Sofia BTA 17 Jul]	33
Bulgarians Block Danube Bridge To Protest Romanian Pollution [Sofia BTA 16 Jul]	33
Bulgaria's Lukanov Proposes New Pollution Meeting to Roman [Sofia BTA 18 Jul]	33
Romanian-Bulgarian Communique on Environmental Protection [Bucharest ROMPRES 19 Jul]	33
Bulgarian Parliament Adopts Ecological 'Appeal' to Romania [Sofia Radio 26 Jul]	34

BULGARIA

Rumors of Black Sea Coast Contamination Unfounded [BTA 19 Jul]	35
IAEA Deputy Director Inspects Bulgarian Reactors [BTA 20 Jul]	35

CZECHOSLOVAKIA

Balancing of Ecology and Economics Viewed [ZEMEDEL'SKE NOVINY 13 Jun]	35
Government Reviews Ecology Issues [CTK 18 Jul]	36
Nuclear Power Plant Problems Noted [Vienna Radio 20 Jul]	36
New Incidents at Bohunice Nuclear Plant Reported [Hamburg DER SPIEGEL 23 Jul]	37
Nuclear Safety Chairman Interviewed on Bohunice [SVOBODNE SLOVO 21 Jul]	38
Bohunice Director Discusses Plant's Safety [NARODNA OBRODA 21 Jul]	38
Control Ministry Official on Soviet Troop Damage [PRACE 25 Jul]	39
Polychlorinated Biphenyl Threat, Solutions Discussed [ZEMEDEL'SKE NOVINY 13 Jun]	39
Joint Venture Set Up To Reprocess Coal Sludge [HOSPODARSKE NOVINY 19 Jul]	41
New Fibers Exhibit Environment-Protective Potential [East Berlin TECHNISCHE GEMEINSCHAFT May]	41

GERMAN DEMOCRATIC REPUBLIC

Rostock Conference Finds Need for Baltic Waste-Treatment Facilities [Munich SUEDEDEUTSCHE ZEITUNG 30 Mar]	41
Ex-Deputy Environment Minister Comments on Recent Dismissal [BERLINER ZEITUNG 30 May]	43
Effects of Uranium Mining To Be Investigated [ADN 23 Jul]	44

HUNGARY

Hazardous Waste Deposits Found	45
Bicske-Obarok [MAGYAR NEMZET 28 Apr]	45
Gare-Bosta-Szalanta [MAGYAR NEMZET 24 Apr]	45
Serious Lead Pollution Raises Concern in Budapest District [VILAG 5 Apr]	45

POLAND

Science Academy Details Extent of Ecological Disaster [Bonn RHEINISCHER MERKUR/CHRIST UND WELT 25 May]	47
Environmental Protest in Czorsztyn [Warsaw Radio 16 Jul]	48

LATIN AMERICA

INTER-AMERICAN AFFAIRS

Chile's Aylwin Sees Industrialized Countries as Main Polluters [Santiago Radio 14 Jul]	49
Brazilian, Venezuelan Presidents Sign Joint Ecology Declaration [Brasilia Radio 20 Jul]	49

ARGENTINA

Saadi Denounces Presence of Nuclear Dump in Catamarca [TELAM 11 Jul]	49
Train With 7 Cars of Radioactive Material Derails [Buenos Aires Radio 19 Jul]	50

BRAZIL

Suit Demands Construction of Radioactive Waste Site [Rio de Janeiro TV 17 Jul]	50
--	----

CHILE

Official Reports Incidence of Acid Rain Around Santiago [Santiago Radio 13 Jul]	50
---	----

DOMINICAN REPUBLIC

Yaque River Contamination Noted [LISTIN DIARIO 26 May]	51
Ozama River Reportedly 'Dying' [EL NACIONAL 9 Jun]	51
River Flow Drops Ascribed to Deforestation [EL NACIONAL 22 May]	52

HONDURAS

Nation Said To Face 'Ecological Collapse' [LA PRENSA 8 May]	52
---	----

JAMAICA

Environmental Official Notes Pollution in Kingston Harbor [Bridgetown CANA 11 Jul]	53
--	----

MEXICO

Most of Lacandon Forest Said Destroyed [PROCESO 14 May]	54
SRA Role in Forest Destruction Charged [LA JORNADA 4 Jun]	56
Sewage Treatment Plant Statistics [EXCELSIOR 6 Jun]	57

SOVIET UNION

Chernavin Assurances on Nuclear Submarine Safety Doubted [IZVESTIYA 17 Jul]	58
Local Soviet Challenges Arctic Nuclear Test Plan [IZVESTIYA 15 Jul]	59
Government Nuclear Official on Khmelnitskiy AES 'Blockade' [IZVESTIYA 16 Jul]	59
Opposition to Mukachevo Radar Station Criticized [RABOCHAYA TRIBUNA 1 Jun]	60
'Public Trial' of Volga-Don Canal Project Held [PRAVDA 19 Jun]	61
Volgograd Public Ecological 'Court' Examines Volga-Don Canal Project [Ye. Manucharova, V. Kornev; IZVESTIYA 14 Jun]	61
'Serious' Pipeline Accidents Result in Gas Leak, Oil Spill [TASS 16 Jul]	63
Destruction of White Sea Starfish Remains Unexplained [IZVESTIYA 13 Jul]	64
28th CPSU Congress Resolution on Chernobyl [PRAVDA 14 Jul]	64
Belorussia Declared 'Ecological Disaster Zone' [Moscow TV 11 Jul]	65
Belorussia Takes Action on Nuclear Safety [IZVESTIYA 13 Jul]	65
Moscow Agrees To Move SRV Workers From Chernobyl [Hong Kong AFP 16 Jul]	65
Omsk Authorities Draw Up Map of Background Radiation [IZVESTIYA 13 Jul]	66
Findings of Petropavlovsk Radiation Survey [Moscow Radio 15 Jul]	66
Transcaucasian Railroad Ships Radiation-Contaminated Meat [E. Freyman, et al; GUDOK, 24 Jun]	66

WEST EUROPE

EUROPEAN AFFAIRS

European Parliament Commission Criticizes EC Environmental Policy [Luxembourg LUXEMBURGER WORT 16 Jun]	71
---	----

BELGIUM

Flemish Liberals Develop Environmental Program [P. Renard; KNACK 2 May]	71
---	----

FEDERAL REPUBLIC OF GERMANY

Kruemmel Nuclear Power Station Leak [DPA 23 Jul]	73
Bonn First To Set CO ₂ Emission Reduction Goals [HANDELSBLATT 15-16 Jun]	73

FRANCE

Decision on No-Phosphate Detergents [LES ECHOS 30 May]	74
Environmental Plan for Next Decade Detailed [LE MONDE 16 Jun]	75

NORWAY

Coastal Forest Damage Described, Assessed [AFTENPOSTEN 2 Jun]	76
---	----

Japanese International Trade Ministry Welcomes Summit Communiqué

OW1207052990 Tokyo KYODO in English 0412 GMT 12 Jul 90

[Text] Tokyo, July 12 KYODO—The Ministry of International Trade and Industry (MITI) on Thursday welcomed the Houston summit economic communiqué for “articulating the industrial nations’ firm long-term commitment” to reducing carbon dioxide emissions.

The ministry was apparently elated by the communiqué, issued Wednesday at the end of the three-day annual summit of seven major industrial countries in Houston, Texas, and said it reflected, as expected, some of the proposals in its recently announced 100-year program to reduce carbon dioxide emissions to combat global warming.

The summit communiqué said, “we recognize the importance of working together to develop new technologies and methods over the coming decades to complement energy conservation and other measures to reduce carbon dioxide and other greenhouse emissions.”

Sozaburo Okamatsu, director general of MITI’s Industrial and Environmental Protection Bureau, said “that part of the communiqué is based on our plan, which Prime Minister (Toshiki) Kaifu proposed in the summit meeting.”

Reading a released statement, Okamatsu said, “it should be highly appreciated that industrial nations pledged to contribute to reviving the green Earth by overcoming the carbon dioxide problem through developing new technology.”

Okamatsu said the ministry will take initiatives at such international forums as the intergovernmental panel on climate change (IPCC) to achieve the early implementation of the program.

The 100-year program is the grand design of Japan’s long-term efforts to fight the greenhouse effect, or global warming by gases trapped inside the stratosphere.

The ministry launched Wednesday the Research Institute of Innovative Technology for the Earth as the core institution for the program.

The institute, which will be staffed by 80 researchers, will soon start inviting plans from researchers worldwide to develop technology to reduce carbon dioxide emissions.

The ministry will allocate 3 billion to 4 billion yen in the fiscal 1990 budget for the institute, Okamatsu said.

EC Commissioner Assails U.S. Policies at Bergen Conference

90AN0317 Brussels EUROPE in English 14-15 May 90 p 14

[Report: “Environment—EC Commissioner Di Meana Criticizes the United States: Bergen Conference on the Follow-Up of the Brundtland Commission”]

[Text] Bergen (Norway), 14 May 1990 (EU)—At today’s opening of the Bergen conference on the follow-up of the report of the Brundtland Commission, within the framework of the UN/ECE, EC Commissioner [Responsible for Environment, Nuclear Safety, and Civil Defense] Ripa di Meana declared himself surprised by the position taken by the United States during the debates on the ministerial declaration which is scheduled to be adopted at the end of the conference. It is especially regrettable, the commissioner noted, since the industrialised countries are finally ready to undertake concrete actions in favour of the environment and developing countries appear more inclined to listen to the arguments of the “rich” countries. “I am even more surprised,” Mr. Ripa di Meana noted, “since this American position appears to be in full contradiction with the Clean Air Bill currently in force in the United States. I hope and I am sure that the United States will realise, with our help, that the global environment needs as much protection as one’s own.”

The commissioner mentioned another cause for worry: the fact that the United States refused to take its rightful responsibility in the financial mechanism to be established within the framework of the Montreal Protocol on the protection of the ozone layer. For this part, Mr. di Meana confirmed that the Community accepts its responsibilities in this field and would make every effort to make sure that such a mechanism is created in favour of developing countries. “These events,” the commissioner concluded, “confirm the negative assessment I made of the results of the recent White House conference held in Washington on climate changes.”

The commissioner also stressed the need for such conferences—which are held more and more often—to result in concrete actions, even if the latter must lead to certain sacrifices. Deadlines must be set as regards the reduction of CO₂ emissions in the atmosphere, the emission of CFC’s [chlorofluorocarbon] which destroy the ozone layer, and deforestation in tropical areas. All this must be done by helping Third World countries, which must also accept from now on to design their future economic development programmes on the basis of data including environmental protection.

ASEAN Post-Ministerial Conference To Discuss Environmental Issues

BK2607055690 Kuala Lumpur BERNAMA in English 0453 GMT 26 Jul 90

[By Sukardi Abdul Ghany]

[Text] Jakarta, July 26 (OANA-BERNAMA)—Malaysia, ASEAN’s country coordinator with the European Community (EC) at the Post-Ministerial Conference (PMC)

beginning here Friday [27 July], will raise four main issues on economics and environment during their "one-plus-one" dialogue.

They are the impending creation of the single European market, assurance of continuous EC economic commitment in the region, countering allegations of the anti-tropical wood campaign, and environmental matters.

The dialogue, to be chaired by Foreign Minister Abu Hassan Omar, who headed the Malaysian delegation to the just-concluded ASEAN ministerial meeting, will be held over two days beginning on Saturday.

"Our views are representative of ASEAN's common stand for strong economic cooperation to ward off challenges together," he told newsmen here Thursday.

Officials had earlier expressed concern at the obstacles ASEAN is facing in trade relations with the EC and other dialogue partners, especially on the question of market access for its products and the slow pace of industrial cooperation.

The EC's impending evolution into a single market in 1992 has triggered worries in ASEAN that Western Europe might soon become a "protectionist fortress".

Officials have constantly reminded fellow members to remain united to face the challenges and the possible impact of a single Europe in the 1990's.

Abu Hassan said his delegation would seek further assurance from the EC that the creation of the single European market would not eventually lead to a trading bloc.

Although the EC has allayed ASEAN fears over the single market and recent changes that have swept across Europe in its relations with the regional grouping's members, he said ASEAN would continue to press the EC for more liberal treatment at the dialogue here.

"The same goes to issues on EC's recent aid to Eastern Europe. We would like to ensure that its commitment there will not affect its priority in this region," he added.

On Western environmentalist campaigns against logging in the region's rainforests, Abu Hassan believed ASEAN is better prepared this time in their unanimity to head off the threat to boycott tropical timber.

"We are committed to carry out this task to counter the allegations of forest mismanagement," he said, adding that this would be followed by several missions to be sent to Europe, the United States and Japan to explain ASEAN's stand beginning next week.

ASEAN will also send a ministerial delegation, to be headed by Indonesia's minister of forestry, Hasjru Harahap, to those countries in October to lobby their governments to reject what they see as restrictive trade legislation on tropical timber.

Abu Hassan said global environmental issues which are of pressing concern to ASEAN countries would be given proper perspective too during the dialogue.

Representatives of the dialogue partners—Australia, Canada, the EC, Japan, New Zealand and the United States—will arrive Thursday.

Indonesia, Thailand, Singapore, Brunei and the Philippines have been appointed ASEAN's country coordinators for the direct dialogue with New Zealand, the United States, Australia, Canada, and Japan, respectively.

South Korea, USSR Sign Accord on Antarctic Research

SK1307074690 Seoul YONHAP in English 0740 GMT 13 Jul 90

[Text] Seoul, July 13 (OANA-YONHAP)—South Korea and the Soviet Union have exchanged a memorandum of understanding on scientific research in Antarctica, the Korea Ocean Research and Development Institute (KORDI) said Friday.

The memorandum was signed here by Ho Hyong-tak, president of the Korean National Committee on Antarctic Research, and Artur Chilingarov, deputy chairman of the Soviet State Committee for Hydrometeorology, who has been on a visit here since July 6, a KORDI spokesman said.

The memorandum calls for cooperation in various fields such as joint research, information and personnel exchange, logistics and others, he said.

The Soviets promised to carry supplies to Korea's King Sejong Station on King George Island when their supply ship visits the seven Soviet stations on the continent, he said.

It was also agreed that the two sides will inform each other of research activities in Antarctica and share technologies and experiences for environmental protection.

Because the memorandum was exchanged by controlling committees, the two sides will meet again this year to exchange a memorandum of agreement between KORDI and the Soviet Arctic and Antarctic Research Institute, the official said.

The date and venue of the meeting will be decided later.

Nauru Seeks World Court Action Against 'Exploiters'

BK2007075190 Hong Kong AFP in English 0627 GMT 20 Jul 90

[By Michael Field]

[Text] Wellington, July 20 (AFP)—Nauru, the world's smallest nation, is mounting a legal battle to seek compensation for its devastation by colonialist exploiters.

Government officials plan to tell the International Court of Justice (ICJ) at the Hague how Australia, New Zealand and Britain strip-mined their phosphate-rich soil and left them with a barren landscape.

Nauru filed its opening claim two months ago and Australia has until January to reply.

Nauru government officials have declined to make public the 10 volumes of documents they filed with the court, but diplomatic sources here gave a copy to Agence France-Presse.

"The story of Nauru and the problems ... are of an importance which reaches far beyond (Nauru)," the documents say. "(They) are global issues and of vital concern to the global community."

Nauru was a United Nations trust territory under Australia, Britain and New Zealand. Nauru's suit cites only Australia, because it is the only one of the three to accept full ICJ jurisdiction, and asks for 72 million dollars (56 million U.S.) to repair damage.

But it argues that Britain and New Zealand, and former occupying powers Japan and Germany, have a moral obligation to pay damages.

"From being a primeval garden, Nauru has been transformed ... into a gaunt landscape," the documents say. Two-thirds is now "like freshly dug graves with white headstones showing conspicuously above." Nauru's phosphate made it "a treasure house of the Pacific and a prized object of economic and political rivalries into which the Nauruans were drawn as passive victims," the documents say.

When mining began in 1906, it was a German colony. Australia occupied it in 1914, and under the League of Nations it became a mandated territory under Australia, New Zealand and Britain. They turned Nauru and neighbouring Banaba, or Ocean Island, over to the British Phosphate Commission (BPC) which, say documents, "was no independent entity but the three partner governments themselves in another guise." The BPC preserved "a tight and monopolistic grip" in secrecy, they say.

BPC records are still secret, and Nauru has only a rough idea of the value of the phosphate mined there, calling their loss "of great magnitude." The mineral was sold exclusively to BPC partner governments. Nauru claims it kept the cost at a quarter of the international market price.

Nauru claims the BPC obtained consent to mine by factors that "included coercion and deception." it says the BPC, in a "paternalistic or supercilious" manner, would pay Nauruans only what BPC thought was good for them. That attitude "suggests that the native is not entitled to the price of the product, but that the true owners out of grace and favour gave them so much as was necessary to their needs," the documents say.

Between 1906 and 1968, 41 million tonnes of phosphate were mined. Since 1968, Nauru has moved 39 million tonnes.

BPC's share in dollars of the times was 59 million dollars (46 million U.S.), of which Nauruans got four million dollars (3.1 million U.S.), the documents say.

Nauru says its land rehabilitation costs would total 215 million dollars (171 million U.S.). Documents say the BPC left Nauru a "rehabilitation fund" containing less than 600,000 dollars (480,000 U.S.), and since 1968 Nauru has built the fund up to 214 million dollars (169 million U.S.).

Nauru rejects the three countries' response that independence was a "just settlement." Nauru got two benefits, independence and control of its phosphate, and "neither of these was any more than what they were entitled to in law." Nauru says the three countries' argument is that Nauru itself should repair the BPC's 50 years of damage.

It is a survival issue for Nauru. The phosphate will run out by the mid-1990s and to make matters worse, phosphate prices have collapsed, leaving prospects for the island's revenue tenuous at best.

Two-thirds of the island's water now comes in from phosphate ships, and once exporting stops, they will not come. The rehabilitation plan involves moving the airport from the coast to the mined-out area at an estimated cost of 63 million dollars (50 million U.S.) and using the former tarmac strip as a water catchment.

Documents say Nauru is a small country with environmental problems of giant dimensions. "They may need a giant's strength for their solution. It was once a trust territory whose wealth and very substance were scattered throughout the world in the form of cheap fertilizers which helped grow food not only for particular countries but through them for all the world," the documents say. "The world cannot be insensitive to Nauru's problems."

Opposition to USSR-PRC Amur River Damming Project Noted

90WN0091B Moscow TRUD in Russian 19 May 90 p 2

[Article by TRUD special correspondents V. Dolgodvorov, I. Krasikov, and Yu. Yudin (Amur Oblast): "The Fate of the 'Black Dragon'"; passages in boldface as published]

[Text] The Public Committee To Save the Volga is making every effort to help the great Russian river out of its present troubles. Meanwhile, the still omnipotent central departments are going against public opinion by drafting a comprehensive plan for the construction of a series of GES's on the Amur, explaining that this will be necessary for stronger friendly relations with the PRC.

The plan is called "Subduing the 'Black Dragon.'" This is what the Chinese call the Amur.

We stood on the site of the ancient city on the outskirts of Albazino with the curator of the local museum, Agrippina Nikolayevna Dorokhina. She is in her eighth decade, but the woman's tenacious memory contains every detail of the history of her native land. When she tells the story, it sounds like a marvelous legend.

"The Cossack community came to the unfamiliar new territory to live in peace, carrying kernels of wheat in knapsacks. This, however, did not suit the belligerent Manchurian nomads on the other side of the river. The Russian men often had to lay down their plows and harrows and take up their weapons....

"The territory was fabulously wealthy. Here is what the founder of the first settlement reported to his sovereign Aleksey Mikhaylovich: 'The Daur people live along the famous great Amur River, and many Tungus live along the tributaries below. That same great Amur River has hausen and sturgeon and other kinds of fish in much greater numbers than the Volga. There are vast plains and plowland, and the forests along the great Amur River are dark and tall, with sable and all kinds of wild animals. We must establishment settlements and colonize the territory.'"

The Amur and its floodlands have provided people with food and drink for centuries. The local Albazinskiy Sovkhoz is situated on the land where Yerofey Khabarov himself was the first to harrow the fields. Today it supplies almost the whole northern half of Skovorodinskiy Rayon with vegetables, potatoes, fresh milk and meat. It was not eradicated by the campaign for the elimination of unpromising rural communities. Three out of every four people left at that time, but Albazino remained solely because of the efforts of Agrippina Nikolayevna Dorokhina. Even after the local kolkhoz was liquidated and new places of residence had been assigned for its members, the people of Albazino did not leave. The schoolteacher Dorokhina went to Moscow to report the opinions of the members of her community to the Presidium of the USSR Supreme Soviet. Albazino stood its ground!

Then perestroika began, and people worked, plowed the land, built homes, got married, and expected changes for the better. Suddenly, like a bolt from the blue, the decision was made to dam the Amur and let the land here become the seabed!

The inhabitants of rural communities in the Amur zone read the terse lines of the TASS report with alarm and distress: "A regular meeting of the Soviet-Chinese commission supervising the drafting of plans for the comprehensive use of water resources in the border sections of the Argun and Amur rivers was held." The governments of the two countries returned to the joint project of the 1950's known as "Subduing the Black Dragon," proposing the construction of seven hydrosystems.

The inhabitants of the cis-Amur zone began to complain and to meet at gatherings. They kept asking the same question: "Why is it that we are the ones who live here, but someone in Moscow is still deciding everything for us?" All seven hydrosystems are to be built in Amur Oblast, but no one felt the need to inform oblast representatives of this fact. Where is the independent ecological appraisal? The waves of protest also reached the pages of oblast newspapers. An appeal to the USSR Council of Ministers, requesting the suspension of the work on the project, was among the first documents A. Belonogov signed when he became the new chairman of the oblispolkom....

Emotions are still running high, however, and the work is still going on. This sounds familiar, doesn't it? This is what happened when they tried to reverse the course of the northern rivers. This is what happened when arguments were cited to prove that there was no reason to build the Volga-Chogray Canal.

The well-known P. Polad-zade, one of the authors and initiators of these plans, became the chairman of the Soviet half of the joint "commission supervising the drafting of plans for the comprehensive use of water resources in the border sections of the Argun and Amur Rivers."

We saw a document signed around a year ago by Chairman Yu. Maslyukov of USSR Gosplan. It says, in black and white, that the USSR Ministry of Power and Electrification and the Ministry of Foreign Economic Relations, "in conjunction with interested Soviet organizations, will begin negotiations with the Chinese side on the joint construction of GES's on the Amur River." Remember that, according to official agencies, there are no such interested organizations in the oblast. This Gosplan order was also issued, it turns out, "on the instructions of the USSR Council of Ministers." Even earlier, in 1986, the USSR and PRC signed an intergovernmental agreement on this matter.

As we watched Father Amur flow swiftly by, we naturally remembered Mother Volga, spanned by dams like blood clots: Huge forests, water meadows, and abandoned lands have been flooded and have turned into salt marshes where the water is not fit to drink and where the fish die.

At a time when there is not enough money to continue the construction of a GES in the same oblast—the 2-million kilowatt GES on the Burey, a tributary of the Amur, where the work has been going on for at least 10 years now, it seems sacrilegious to begin work on a project which will destroy the entire Amur ecosystem.

Like all the inhabitants of the Far Eastern zone, we support every effort to strengthen friendly relations with China because we know from our own experience what the tension in our relations once did. Two of us have lived in the Far East for a quarter of a century. If our neighbors need electricity so much, would it not be better to ask them to take part in building the Bureyskaya GES?

Furthermore, it would be more acceptable from the ecological standpoint: It would not create a gigantic reservoir but would simply raise the level of the water in the mountain canyons, whereas the Amur flows mainly through level territory. In general, if it is impossible to get along without several GES's, why could they not be built on the alpine tributaries of the Amur? There are many of these on the Soviet and Chinese sides.

We should listen to some of the specialists' arguments and different points of view.

When P. Polad-zade was interviewed in the documentary film "Russian Bank, Distant Bank," he said: "Now we are working in earnest with our Chinese partners on various plans for the joint use of the Amur's water management resources in the interests of our people. We are considering measures to combat the floods that cause so much economic damage on the Chinese and Soviet sides. This is a matter of the joint resolution of problems connected with the development of fishing, the operation of the river fleet, and opportunities for the use of the tremendous hydraulic power engineering potential of the Amur."

Corresponding Member of the USSR Academy of Sciences I. Druzhinin, director of the Institute of Water and Ecological Problems of the Far Eastern Department of the USSR Academy of Sciences, said: "We do not see the establishment of dams and reservoirs on the Amur as a problem. This matter has been settled. Now we have to choose the sites. In line with our contract with Soyuzgiprovodkhoz, our institute only has to study the effects of flow control on local flora and fauna and conduct hydrochemical and hydrobiological analyses of the water after the dams have been built."

The director made this statement 2 years ago. Even then he had no doubts, and the institute boldly promised to submit the necessary materials in 1990.

Let us listen, however, to the opinion of another scientist, a less eminent and therefore more independent analyst, Candidate of Geographic Sciences A. Makhinov. Here is what he had to say: "The Amur is one of the 10 largest rivers in the world, but even a giant's health can easily be undermined by a problem in just one of the basic elements of this mechanism. A dam, even a single dam, will eventually ruin the river's health. The old migration routes of animals and fish will be dammed, and their sources of food will disappear. We must not forget that the fish resources of the Amur are unique and unparalleled. There are 109 different types of fish here, including the largest fresh-water fish—the Kaluga, which can weigh as much as a ton—and many types are now included on national and international lists of endangered species. The flow patterns of rivers are established over centuries. If the flow is slowed down even slightly, irreversible processes will begin. I think that the construction of the GES's on the Amur is tantamount to a crime—what is more, it would be a crime against humanity.

We spoke with dozens of people in Blagoveshchensk—with scientists and workers, with administrators on various levels, and with informal associations. Not one person said anything in favor of the GES's. An ecological council is being set up by the oblast soviet to keep the Amur in what could be called its original state. Why are the people who approved these dubious plans in the solitude of their offices ignoring the opinions of the inhabitants of this territory? After all, the historical roots of these people will be unavoidably obliterated along with the land and the Amur. The lands inhabited by the descendants of the defenders of Albazin are threatened by floods—the lands where the homes of thousands and thousands of the inhabitants of rural communities along the Amur now stand.

We remember what A. Dorokhina said to us when we were leaving: "I would go to Moscow myself to tell everyone there what is happening and to stop the crime, but I just do not have the strength anymore!"

The Amur flows on—the river of time. What will happen to it tomorrow?

Brazilian Minister Praises FRG Offer for Ecological Project

*PY1807035090 Brasilia Domestic Service in Portuguese
2200 GMT 17 Jul 90*

[By Carlos Alberto from the Foreign Ministry]

[Text] Foreign Minister Francisco Rezek said that the FRG Government's offer to help in the financing of ecological projects is positive, and that this help will be an example for other countries.

The foreign minister believes, however, that even though it is positive, the amount offered is modest when compared to the size of the problem to be solved. He pointed out:

[Begin recording] The Northern Hemisphere's continuous rhetorical declarations about a love of nature have become slightly more concrete with proposals for financial and technological help. This is important because in the past, the help was virtually nonexistent. There was only a dogmatic attitude. [end recording]

Minister Rezek admitted that this help could develop into a decision converting the Brazilian foreign debt into ecological projects.

[Begin Rezek recording] This possibility cannot be discarded. When we talk about conversion, we talk about replacing part of the foreign debt with some type of discussion about environmental problems, particularly in the Amazon jungle, that may interest the creditor countries. [end recording]

Regarding the FRG Government's offer, Minister Rezek said that he believes other countries may follow and improve on this example.

French Cooperation in Africa To Stress Environmental Issues

90WN0170A Victoria SEYCHELLES NATION in French 11 Jun 90 p 8

[Text] Minister of Cooperation Jacques Pelletier and Secretary of State of the Environment Brice Lalonde have signed in Paris the provisions of a joint action program for incorporating environmental concerns in Franco-African cooperation.

The large-scale, universal, major dangers "necessitate that North and South come together," stated Mr. Pelletier, for whom "the environment is one of the keys to economic development.

"Development cannot be unrestrained," the minister continued. "Nor can it take place following the model of the North. We have thus adapted and tried to advocate in international circles an integrated strategy, sensitive to the sociocultural context and to needs, closely tied to local resources and responsive to stages of development.

"To respond today to the expectations of the countries of the South, it is necessary to build a policy of mutual interest marked by an ecological partnership," added Mr. Pelletier.

Mr. Brice Lalonde said he was convinced that "the world is one, indivisible. There are not," he said, "ecologists for the North and developers for the South.

"The environment does not fall into separate spheres, the industrialized countries fighting their own pollution and the developing countries struggling, for example, against the advance of desertification.

"The union of environment and development is here," he said, "and will be the subject of the second United Nations Conference on the Environment in Brasilia in 1992.

"The North-South axis," he added, "as well as the Francophone tie and the investment we make in the least developed countries are opportunities for us to promote lasting development that respects the ecological balance of resources."

In the program they signed, the two ministers set a three-year goal beginning in 1990: to introduce the environment into France's development projects, to outlaw all actions in conflict with the environment, and to aid the developing countries with their environmental problems.

Four areas will receive top priority: urban development, open space management, technology sharing, and legal and financial assistance to partner countries.

Finally, the two ministers will see that nongovernmental organizations join in their programs.

FRG Minister Discusses Plans for Environmental Grant to Brazil

PY2007184490 Rio de Janeiro Rede Globo Television in Portuguese 2300 GMT 19 Jul 90

[Text] FRG Economic Cooperation Minister Jurgen Warnke met with President Fernando Collor in Brasilia to discuss how money earmarked for programs to preserve the Brazilian environment will be used.

Minister Warnke arrived at Planalto Palace accompanied by a unique delegation made up of 20 FRG journalists who are reporting on FRG investments designed to preserve the environment.

During the meeting with President Collor, which lasted a little over half an hour, they discussed various topics, especially preservation of the environment. Warnke wanted to learn about Brazilian ecology.

The FRG minister also met with Foreign Minister Francisco Rezek and Environment Secretary Jose Lutzenberger. During the meeting they discussed how an FRG donation of \$150 million—more than 13 billion cruzeiros—for the Brazilian environment will be used.

Minister Rezek said that this money is not enough, but that the FRG gesture has a very significant political meaning because it is the first industrialized country to invest in the preservation of another country's environment.

During a news conference Minister Warnke explained that the FRG donation for the Brazilian environment is part of a pilot program and that the European Community will soon make new proposals to preserve the ecology. Jurgen Warnke believes that Brazil's priority areas are the Amazon jungle, the Sao Paulo seacoast, and the Caraja Region.

The FRG economic cooperation minister explained that the money will be given to Brazil over a three-year period. The FRG Government intends to supervise the use of this money in Brazil.

FRG Minister Opens UN Environmental Congress in Saarbruecken

90WN0166A Duesseldorf HANDELSBLATT in German 29 May 90 p 4

[Article by hjs: "In Favor of New Structures of Energy Supply"]

[Text] Bonn. Federal Research Minister Heinz Riesenhuber has advocated a dual policy strategy to meet the challenges of energy supply and environmental protection.

Riesenhuber, who on Monday opened the UN conference "Energy-Environment-Development" in Saarbruecken, described this dual strategy as follows:

- The energy supply must be restructured with the objective to give priority to those energy sources that

emit little or no CO². Primarily, these are natural gas, nuclear, and solar energy and, in the long-range, nuclear fusion as well.

- Climatic research must be intensified with the goal to better understand the interactions between climate and the release of greenhouse gases during energy conversion. This would offer the best foundation for energy options that do not pose a hazard to the climate.

In this context, Riesenhuber referred to the strong expansion of energy research in the area of renewable energy technologies and of efficient energy use on the part of the Federal Government. With an annual budget of DM300 million the federal research ministry this year supports technologies for the exploitation of renewable energy sources, from wind power plants, to geothermal energy and biomass on to photovoltaics. This means that the FRG is appropriating more funds than any other European country and about the same amount as Japan and the United States.

According to Riesenhuber's words, when utilizing renewable energy sources in southern countries and the Third World it is frequently a matter of exploiting the basic site-dependent natural and economic conditions with the help of adapted technologies in such a way that economical operation is made possible. This would require experimental models at various sites. The Federal Government is, therefore, soliciting the scientific-technical cooperation with countries that have other natural background conditions for renewable energy sources. Joint projects in the area of renewable energy technologies exist with a total of 16 countries.

With the approach of the world environmental conference in 1992 in Brazil, the Saarbruecken conference brings together experts from developing nations, Western and Eastern industrialized nations and those from international energy organizations to develop options for energy policies in the area of conflict between economic development and protection of the environment.

Tallinn Agreement Signed on Baltic Sea Protection

*LD2307221490 Riga Domestic Service in Latvian
0430 GMT 2 Jul 90*

[Text] In Tallinn, participants in a scientific conference have signed a treaty of cooperation on the ecological protection of the Baltic Sea. Delegations of the Academies of Sciences of the three Baltic Republics and the Royal Swedish Academy of Sciences intend joint undertakings on the protection of the waters of the Baltic Sea. Latvian, Lithuanian, and Estonian scientists have also signed an agreement according to which they will work out a unified policy of scientific research.

Soviet, Swedish Officials Discuss Baltic Ecology

*LD2607110690 Moscow TASS in English 1059 GMT
26 Jul 90*

[Text] Moscow July 26 TASS—An international conference on the Baltic's ecological revival to be held in Sweden was the key item discussed at a meeting between Soviet Prime Minister Nikolay Ryzhkov and General Secretary of the Swedish Foreign Ministry Pierre Schori in the Kremlin today.

Schori arrived in Moscow as special representative of Prime Minister Ingvar Carlsson. He conveyed an oral message from Carlsson about the conference.

Ryzhkov stressed that the Soviet Government is interested in drafting and implementing efficient measures to revitalize the Baltic in the interest of all peoples living on its shores.

He said that the USSR fully supports aims put before the conference by the Swedish and Polish Government heads, sponsors of this forum.

"In our opinion," Ryzhkov said, "its success would be an impressive contribution to work on the Baltic's ecological revival, which is becoming a top priority issue among Baltic states."

USSR's Ryzhkov Discusses Baltic Ecology Forum With Swedish Envoy

*PM2707141890 Moscow IZVESTIYA in Russian
27 Jul 90 Morning Edition p 4*

[TASS report: "Talk Held"]

[Text] On 26 July N.I. Ryzhkov, chairman of the USSR Council of Ministers, received P. Schori, general secretary of the Swedish Foreign Ministry, who has arrived in Moscow as a special representative of Swedish Prime Minister I. Carlsson. P. Schori conveyed an oral message from the Swedish head of government on the holding in Sweden of an international conference on the ecological revival of the Baltic Sea.

N.I. Ryzhkov said that the Soviet Union, like the other Baltic states, feels profound concern over the region's ecological condition. The Soviet Government is interested in the formulation and implementation of effective measures to promote the radical recovery of the Baltic Sea in the interests of all the peoples living on its shores.

It was stressed that we entirely support the goals set by the conference initiators—the Swedish and Polish heads of government. In our opinion the successful holding of the conference would be a weighty contribution to resolving the task of ecological revival of the Baltic Sea, which is increasingly becoming a priority in the national policy of the Baltic states.

P. Schori showed a keen interest in the processes of in-depth transformations in the Soviet Union and the

results of the 28th CPSU Congress. N.I. Ryzhkov provided explanations and principled assessments of these important events in the Soviet state's life.

During the conversation the sides confirmed their desire to further develop and enrich Soviet-Swedish relations in the context of the new political climate in Europe.

Norway Documents Acid Rain Damage; European Strategy Stressed

90WN0182D Oslo AFTENPOSTEN in Norwegian
30 Jun 90 p 9

[Article by Lene Skogstrom: "Norway Drowning in Acid Rain"—first paragraph is AFTENPOSTEN introduction]

[Text] The limit nature can tolerate in the way of acid rain has long been exceeded in a third of southern Norway. This is shown by the map of nature's tolerance limit that Norway will use as a basis for new international sulfur agreements.

Norway is in the lead in mapping nature's tolerance limit. Through an extensive effort, the Norwegian Institute for Water Research (NIVA) has estimated how much this has been exceeded in various parts of the country. Southern Norway is the most exposed to acid rain, and here the measurements have come the farthest. Now there is a detailed map that shows the condition of the surface water in 14 southern counties. Most exposed have been the Agder counties where the tolerance limit has been exceeded in 95 percent of the area. Rogaland and Telemark have also received much larger doses of sulfur fallout than the environment is able to neutralize.

There are large variations when it comes to nature's sensitivity to different kinds of pollution. Different types of soil and rocks enable the environment to tackle sulfur and nitrogen fallout better in some areas than in others. Nature's tolerance limit is defined as the highest level of pollution nature can be exposed to without showing harmful effects.

"The maps show that southern Norway, particularly West Agder, has an especially low tolerance for acid rain. The same regions receive large quantities of the 200,000 tons of sulfur and 100,000 tons of nitrogen that fall on Norway every year. This is shown in the map of sites where the tolerance limit has been exceeded," said Jon Jerre of the National Pollution Inspectorate.

East Europe and Great Britain contribute almost 40 percent of the pollution that falls on eastern and southern Norway. Only five percent comes from our own country.

Must Be Reduced

There must be sizable emission reductions if conditions are to improve. Even if total acid rain is reduced by 65 percent, the fish population in around 18 percent of southern Norway will still disappear or suffer damage.

Norway has promised to reduce sulfur dioxide emissions by 50 percent of the 1980 level by 1993 and nitrogen oxide emissions by around 30 percent of the 1986 level by 1998.

Some 21 European countries signed an agreement five years ago to reduce emissions of sulfur dioxide by 30 percent in the period 1980-93. In 1988 26 countries signed an agreement to stabilize emissions of nitrogen oxides at the 1987 level by 1994.

But the era of percentage agreements will probably end soon. When new agreements on sulfur emissions are renegotiated now, an attempt will be made to arrive at more effective forms of agreement. The costs of cleansing emissions vary sharply from one country to another. In several East European countries reducing a specific amount of sulfur emission costs only a tenth of what it costs in Norway.

The Nordic lands favor using the concept of "nature's tolerance limit" as a basis. In practice this means that requirements for emission reductions will depend on how much each land contributes to the burden on the environment and how much it can tolerate.

Important Data

"The data that we now have on nature's tolerance limit is very interesting and important. It clearly shows the gravity of the situation," said Environmental Affairs Minister Kristin Hille Valla. "There is obviously more to be gained in East Europe with regard to reducing air pollution. We should concentrate our transfers and aid arrangements on the countries that affect our pollution situation. This will also benefit us in terms of reducing imported pollution."

Hille Valla said that one of our most important tasks is to continue the effort to help countries in East Europe solve their pollution problems.

"We are in the process of doing this in Poland where we have started a comprehensive program for transferring technology and expertise and in the Soviet Union where Norwegian industry is prepared to deliver technology."

The environmental affairs minister stressed the need for a European environmental strategy. "Other European countries are now preparing similar data. Using nature's tolerance limit as the basis for international agreements on reducing air pollution will provide a clearer connection between measures and their effect on the environment," she said.

Norway's Role in International Environmental Policy Examined

90WN0182C Oslo AFTENPOSTEN in Norwegian
25 Jun 90 p 2

[Guest commentary by Gunnar Berge, deputy leader of the Energy and Industry Committee, and finance minister under previous Labor Party government: "Energy Policy and Environmental Assistance"]

[Text] There is broad agreement across party lines that Norway should support the sweeping process of political and economic reform that is underway in East Europe. An environmentally aware Norway must continue to push for strong international development.

Political and economic reforms in East Europe also involve the environment and development, with energy as a key factor. The interrelationship of energy, the environment, and economic development is a primary challenge that requires action, not just on a global level but in our regional European context as well. These perspectives show that Norway needs to take a definite stand on the connection between our foreign policy and our energy policy.

The democratization process and the new openness in East Europe have revealed enormous environmental and pollution problems. A large part of East European industry is aging and creates a disturbing amount of pollution. Economic reforms will mean that some industries must be modernized, and others must be replaced with new industries. Everyone wants tomorrow's industry in East Europe to produce as little pollution as possible.

Environmental Gains

Radically increasing the use of gas as a source of energy in East Europe, reducing the use of coal, and phasing out nuclear reactors that do not satisfy the highest safety requirements will provide Norway with environmental gains too.

We must also assist the new democracies in reducing environmental problems. Not only because imported gas and environmental technology will create problems for debt-burdened countries that already have trouble earning foreign currency, but also because national environmental problems must be seen in a broader regional and global context. In this kind of broad context cooperation is necessary to bring about the most cost-effective distribution of emission reduction so that we can get the biggest possible environmental gain for each krone invested.

The economic and political challenges that East European countries face today are also challenges for us. Here coordinated efforts are required by democracies rich in resources with a view to including East European countries economically and politically in a larger Europe.

Special Responsibility

Norway has a real possibility of influencing a development that also affects us in a fundamental way. Especially as an energy nation. Our favorable situation as a Western industrialized land and exporter of sizable quantities of oil and gas gives Norway a special responsibility.

The Labor Party sees a need—and will call on the government for its active cooperation in this area—for a

pan-European environmental and energy agenda. This as part of the broader Western effort to strengthen political and economic reforms in East Europe.

Bilateral Norwegian aid measures must go hand in hand with active Norwegian participation in shaping the assistance that will be provided by western multilateral forums in the future. Here the goal should be strong economic development and increased mutually advantageous trade in Europe. The energy dimension should also be involved in the context of the Conference on Security and Cooperation in Europe [CSCE].

The declaration from the Bergen conference lays the foundation for an expanded and strengthened cooperation on the environment and development within the ECE area (the UN region for Europe and North America). The conference also showed that some industrial countries must assume an active role in involving other countries in a process that will place increasing demands on action and binding resolutions.

Developing Countries

These cooperation perspectives must be viewed in their broader global and foreign policy context. The aid we want to give East Europe must not be given at the expense of investments and strong growth in the developing countries. Norway and other industrial countries must make an effort that is in proportion to our economic capacity, taking into account the weak resources and poor economic conditions in the developing countries.

East Europe and developing countries must be assured of environmentally appropriate energy and technology as a basis for strong economic development. Increased supplies from industrial countries rich in resources will be needed. It was on the basis of such a perspective that the Harlem Brundtland government recommended that the industrial countries set aside 0.1 percent of their gross national income for an international climate fund.

Global Perspective

Global environmental problems cannot be solved unless they are placed in a broader economic and political context. The danger of rapid climatic changes and environmental destruction is the biggest threat to our security. Strong development places big new demands on political processes both nationally and across national borders. The World Commission has shown the interconnection of energy, the environment, and economic development.

Therefore, there is a need for more ambitious international cooperation, including cooperation in the energy sector. Oil and gas have strategic and economic importance for individual countries, the development of the world economy, and international political developments. This in a world of increasing mutual dependence between countries where the interrelationship of the

environment, energy, and economic development is emerging as an increasingly vital challenge.

There seems to be broad agreement on the goals on which our participation in international cooperation on energy and petroleum issues must be based. Norway can contribute to stable development and reasonably high market price levels. We must contribute to a long-term and appropriate global utilization of natural resources, especially with regard to nonrenewable resources.

With our sizable oil and gas exports and our extensive petroleum reserves, Norway is not an uninteresting player and cooperation partner in such a context. Our energy policy arrangements affect essential Norwegian interests far beyond those related to petroleum alone. It must also be emphasized that our arrangements can affect the vital interests of other countries. It is natural for Norway to see the connection between our foreign policy and our energy policy, especially because other countries will do so.

There is interest, based on environmental concerns, in increasing the use of gas in West and East Europe. This is encouraging for a gas exporter like Norway. But it affects more than our commercial relationship to the EC and East Europe. The fact that Norway with its resource base can emerge as a stable supplier of sizable amounts of strategically and economically important gas on a long-term basis also has clear foreign policy significance.

The World Commission for the Environment and Development points to the importance of oil prices for international environmental policy and the economy. Through our production-regulating measures, Norway contributes to more stable conditions in the oil market. Sharp swings in oil prices not only disrupt the world economy and trade conditions, but can also create political difficulties.

Norway's Role

As an industrial country and petroleum exporter, and with our foreign policy traditions, Norway has a role to play in the work for a future-oriented global energy dialogue in which increased contacts and greater mutual understanding between oil-exporting and oil-importing countries must be a central element.

This kind of interaction with expanded and strengthened contacts between producers and consumers could contribute to greater stability and predictability in the market and could also inspire confidence in a more overall political sense.

The Labor Party will urge the government to actively encourage appropriate political discussions of these matters both bilaterally and multilaterally in international cooperative forums.

Here I am thinking in particular of further work to lay the foundation for the international meeting of authorities from oil-exporting and oil-importing countries. Such

a meeting, where representatives from a limited number of important countries can exchange views on the resource situation, market perspectives, and climatic and environmental effects, could produce a useful impetus for the more comprehensive global energy/environmental dialogue that is required.

Through active participation in the IEA [International Energy Agency] cooperation, through our network of bilateral contacts with producing and consuming nations and through utilization of the possibilities provided by the UN system, Norway has the necessary means to make an active effort to promote mutual global interests in the area of energy and the environment.

EC Environmental Program for East Europe

90AN0322 Brussels EUROPE in English 30 May 90
pp 9-10

[Report: "Environment—EEC/Poland/Hungary: European Commission Finances Two Programmes for the Protection of the Environment as well as EC Participation at the Regional Centre for the Environment in Budapest"]

[Text] Brussels, 28 May (EU)—Within the framework of PHARE action, the European Commission approved eight financing programmes in favour of projects in Hungary and Poland for a total of ECU 86.5 million, of which more than 50 percent, that is ECU 49 million, are intended for environmental protection; ECU 22 million are intended for Poland, ECU 25 million for Hungary and ECU 2 million for the regional centre for the environment in Budapest. The state of the environment in Central European countries is mediocre and necessitates drastic, immediate decontamination. Certain rivers in Poland (one of the most polluted countries of the region) are, for example, even too polluted for industrial use. The following indications are included in the programmes approved in favour of environmental protection:

Poland

The programme concerns the Project Implementation Unit, created by the World Bank within the Polish ministry concerned. In particular, it has the short-term objective of helping this country to develop its system of environment monitoring, which is at present insufficient, and to finance projects aimed at:

a. Reducing emissions of air pollutants: One of the highest pollution rates is that of sulphur dioxide, which is due to the high consumption of lignite and which is insufficiently controlled and worsened because of the slump as lignite is used as a substitute for more costly sources of energy. Upper Silesia and Krakow are the regions which are the most heavily affected; deposits of sulphur dioxide exceed 100 tons per km²/year. Domestic heating, by individual coal fires, and car exhaust fumes accentuate environmental damage.

b. Improving the quality of water: At present, appropriate processing technologies for waste water and residue are lacking and the industry requires capital. Enormous quantities of industrial waste are thrown into rivers and the Baltic Sea, the rate of pollution being very high there. Other sources of aquatic pollution also have their part of the blame (domestic waste water, water salination, run-off of agricultural chemical products). The processing of waste water only exists in half of the towns.

c. Ensuring treatment of waste, at present deposited in the open without the slightest control. The management of waste is one of the main problems confronting Poland in the environment field. The elimination of toxic waste, in particular chemical, along waterways and the use of sludge as a fertiliser is also a cause for concern.

d. Developing protection of natural sites, in particular an overall protection strategy for the lakes of Mazuria.

Hungary

The programme for this country includes the same general objectives as those for Poland, with emphasis on the regeneration of the lake's ecosystems and training in environmental protection. The medium-term objective is to help officials responsible for the environment to draft strategies and long-term protection policies, to strengthen institutional capacities, and to lay down the foundations of future EC participation in environmental protection by preparing financing programmes. The programme provides for the creation of:

- a fund for financing projects launched in the areas chosen, which will cover the cost of equipment, technical assistance and other expenditure involved in the implementation of the programme;
- a programme management team within the competent ministry which will include three outside experts hired for the long-term to aid in managing the programme.

In Hungary, 45 percent of the population lives in regions where air pollution, which is above international acceptable levels, causes a high proportion of respiratory illnesses, anaemia, etc. Sulphur dioxide is one of the principal sources of pollution (10 tonnes are pumped out annually per km² and 45 percent is exported). Water pollution, imported by rivers from neighbouring countries or generated locally, is also a source of grave concern. Only half of the population is connected to a system to evacuate waste water, and the water distributed in 800 cities and towns is considered unfit for consumption. The tributaries of major rivers and surface water are seriously contaminated by mercury, lead and bacteriological agents, and large amounts of nitrates flow into subterranean waters (115,000 tonnes annually). The elimination of waste poses a serious problem. Hungary, moreover, imports dangerous waste that it stores inadequately.

EC Participation in the Regional Centre for the Environment in Budapest, Totalling ECU 2 million

In July 1989, President Bush had proposed the creation of such a centre as a major contribution to reestablishing the environment in Central and Eastern Europe, in association with the process of economic restructuring. According to the draft, the centre should be an autonomous organisation, apolitical and non-profit making; it will sponsor seminars, workshops, expositions, training courses and scholarships. It will also manage and collect information. In this regard, according to the Commission, close cooperation between the EEC's future European Environment Agency must be planned.

Hungarian Official Comments on Damage Done by Soviet Troops

LD1207115590 Budapest Domestic Service in Hungarian 0400 GMT 12 Jul 90

[Text] [Announcer] In this morning's issue of MAGYAR HIRLAP, an interview can be read with Colonel General Burlakov, who says that when he spoke of halting the Soviet troop withdrawals, he was giving a personal opinion. He continues to deny the fact of environmental pollution, and he says that he does not believe Gabor Demszky, who not long ago supplied parliament with evidence of this. Our guest in the studio is (Zoltan Illes) deputy state secretary in the Ministry of Environmental Protection. What do you say to Col- Gen Burlakov's most recent statement?

[[Illes]] The Soviet formations used 22,000 hectares in Hungary. I do not allege, nor does anyone allege, that all of the 22,000 hectares are polluted. However, allow me to say that, for example, 8,000 hectares of the 30,000-hectare area of the Kiskunsag National Park are protected, and 700 of these strictly protected 8,000 hectares are seriously damaged. This damage amounts to approximately 120-130 million forints; this includes soil-damage from (?bulldozing) and fire damage. At the same time, the damage to the protected plants and animals that have been destroyed is not included in this.

[Announcer] Allow me to interrupt. Col-Gen Burlakov constantly says that these drill grounds were used by Hungarian soldiers together with Soviet soldiers.

[[Illes]] There is a shooting ground in the Kiskunsag National park, one sector of which is used by the Hungarian Army, but it is not tanks that shoot there; soldiers carry out live firing maneuvers. At the same time, the fire damage stems from the impact of various shells. Therefore it is not the Hungarian Army that caused this damage, and at the same time the Hungarian Army uses that firing ground only temporarily and occasionally.

[Announcer] Allow me to ask: It seems to me that the Hungarian and Soviet experts sometimes do not speak the same language. Does the concept of environmental pollution mean the same to us and to the Soviet Army?

[[Illes]] The Soviet side says that we want to force up our demands by mentioning environmental protection problems, too. Until the most recent discussions, they denied environmental pollution. At the same time, they are compelled to recognize that, for example in the Veszprem area, there is such oil pollution, soil pollution, that the cost of repair work exceeds one million dollars. At the same time, 20-30 million dollars are necessary for environmental pollution at the 18 bases that have already been handed over this year. I believe that no matter how much they would like not to take into account the damage caused to the environment, they will be compelled to do so.

[Announcer] Do you not fear that if you and the Environmental Protection Ministry's leading officials are so resolute and do not allow for compromise when defending Hungarian interests, the threat mentioned by Burlakov, even if as he said it was a personal opinion, might take place—that Soviet troop withdrawals might come to a halt?

[[Illes]] I believe that this remains his personal opinion. I do not fear this. At the same time, allow me to say that we have asked the Soviet side to send its own experts, too. So we do not want arbitrarily to establish the sources of pollution, but together with Soviet military and civilian experts.

[Announcer] Thank you.

Hungarian Gabcikovo Commissioner Interviewed

*LD1607202990 Bratislava Domestic Service in Slovak
1630 GMT 16 Jul 90*

[Text] The new Hungarian governmental envoy for the Gabcikovo-Nadymaros Danube water project gave his first press conference in Budapest today. Tomas Borec, our correspondent, was present there:

[Borec] The new governmental envoy (Gyorgy Sarson de Kis) said that his main task was to carry out the program of the Hungarian Government. The program says that the government continues to insist emphatically on the final solution of the further fate of the Gabcikovo-Nadymaros Danube water project, that it wishes to start with the preparation for putting Nadymaros into its original state and wants to re-open the talks with the Czech and Slovak partners about halting work in Gabcikovo. The government believes that the Danube water project represents ecological danger for both countries. And as it is a heritage of the joint wrong decision they must bear jointly the consequent damage and the consequence of getting it into its original state.

[Sardon de Kis] went on to emphasize that he wants to strive for fair arrangement with the Austrian, Czech and Slovak partners and will not allow the Hungarian side to apply its particular interests. Hungary wants to put forward a program of joint construction of a protected nature area along the Danube on the territory of all three

countries, the design of which—even at the cost of some sacrifice—could be an example also on an international scale.

When I asked about an independent international body which was mentioned also at the recent meeting of Presidents Vaclav Havel and Arpad Goncz, the Hungarian governmental envoy said that the body should adopt standpoints on controversial issues. Perhaps bodies of European communities could help here too, but only with the participation of experts which would be accepted jointly by Hungary and the CSFR.

Austrian Minister Calls for Closure of CSFR Nuclear Plant

*AU1707194890 Vienna ORF Teletext in German
1805 GMT 17 Jul 90*

[Text] Vienna/Salzburg—Immediately after reports on safety defects in the Bohunice Nuclear Power Plant in the CSFR had been published, Environment Minister Flemming appealed to the CSFR Government today to close down the plant. Continued operation is irresponsible, she pointed out.

The FPÖ official [Freedom Party of Austria] from Salzburg, Buchner, appealed to the new chancellor in Prague, Karl Schwarzenberg, to intervene with President Havel to ensure the closure of the Bohunice plant. Schwarzenberg should use his position to avert a nuclear threat from Austria [as received], Buchner suggested.

Austria's Vranitzky Asks CSFR for Statement on Bohunice Plant

*AU1807172390 Vienna Domestic Service in German
1600 GMT 18 Jul 90*

[Robert Stoppacher report]

[Excerpts] Austria now banks on talks with leading CSFR representatives on the hot subject of the Bohunice Nuclear Power Plant. Today Chancellor Vranitzky sent CSFR Premier Marian Calfa a telegram in which he asks for a statement from Prague. Vranitzky recalls Austria's offer to help its northern neighbor cope with the nuclear power problem. Next week, the chancellor will also discuss Bohunice with President Havel if he comes to Salzburg as announced.

Next Monday [23 July], Environment Minister Flemming will discuss the nuclear power problem with her Czechoslovak counterpart Tirpak. [passage omitted]

Meanwhile the Czechoslovak Embassy in Vienna reported that the Bohunice blocks one and two will be switched off when the new nuclear plant in Mohovce in central Slovakia is put into operation. This will be the case in two years at the earliest, it was stated.

Austria's Vranitzky Wants To Send Experts to CSFR Nuclear Plant

*AU2007193090 Vienna Domestic Service in German
1600 GMT 20 Jul 90*

[Telephone interview with Austrian Chancellor Franz Vranitzky by Werner Loew on 20 July 90—recorded]

[Text] [Loew] In a letter sent to the Austrian Embassy in Prague, Czechoslovak Premier Calfa invited Chancellor Vranitzky to convince himself of the absolute safety of the Bohunice Nuclear Power Plant on the spot. I asked Chancellor Vranitzky one hour ago whether he will accept this invitation:

[Begin recording] [Vranitzky] First of all, I really welcome the fact that Premier Calfa answered the telegram that I sent this week so quickly. It is a good opportunity to take up constructive talks with the Czechoslovaks at last. However, I will suggest that he invite experts from the recently established nuclear forum to Czechoslovakia who will not only have a look at the reactors on the spot, but will also talk to Czechoslovak experts. I think that this is far more appropriate than going there myself, as I am not an expert and would be hardly able to ascertain the safety or unsafety of a power plant when visiting it.

I will make efforts to see that the experts of the nuclear forum will be able to go immediately to the CSFR, because I will meet Premier Calfa at the meeting of the heads of government of the so-called Pentagonal in Venice on 1 August. I hope that we will have received experts' opinions by then so that we will be able to hold political talks and talks on possible economic cooperation.

[Loew] That is, Mr. Chancellor, now you will not go with the experts?

[Vranitzky] No, this would be rather pointless. I am neither a nuclear physicist, nor a technician, nor an engineer. I could have a look at a house or a chimney or something else there. I would rather rely on the reports of the scientists. After all, Mr. Calfa is not a nuclear physicist either, but a politician, and we will have to draw political conclusions.

[Loew] Thank you very much, Mr. Chancellor.

CSFR Memorandum to Austria Over Nuclear Station

*LD2007203190 Prague CTK in English 1939 GMT
20 Jul 90*

[Text] Prague July 20 (CTK)—On the decision of Czechoslovak Prime Minister Marian Calfa, Czechoslovakia today handed over to Austrian Ambassador to Czechoslovakia Karl Peterlik a memorandum, expressing in it its concern over a new wave of the anti-Czechoslovak campaign in Austria aroused in connection with an article published in the weekly for policy, economy and culture, NOVE SLOVO.

The alarming reports around the running of the nuclear power station at Jaslovske Bohunice, West Slovakia, are quite unjustified. In order to prevent further spreading of this campaign, Marian Calfa invited Austrian Chancellor Franz Vranitzky to inspect the power station to convince himself of the safety of the power station.

The Czechoslovak side firmly believes that this step will bring calm to mutual relations and prevent further spreading of anti-Czechoslovak moods in Austria.

Austria's Vranitzky Responds to Czechoslovak Memorandum

*LD2007203690 Bratislava Domestic Service in Slovak
1930 GMT 20 Jul 90*

[Text] This evening Franz Vranitzky, Austrian chancellor, reacted to an invitation by Marian Calfa, premier of the Czechoslovak Government, to join him for a check of the nuclear power station in Jaslovske Bohunice.

In an evening television program, ORF Abend Journal, he expressed his pleasure regarding a quick reaction by the premier of the Czechoslovak Government to his telegram sent on Wednesday. Nevertheless, he considers it more appropriate if the experts of the Austrian Forum for Nuclear Questions will visit Czechoslovakia, as he himself is not an expert in this field and therefore does not consider his visit to Jaslovske Bohunice to be a contribution toward a solution.

The chancellor said that he trusted reports by scientists and that there was a need to draw political conclusions from them.

In Franz Vranitzky's words, he will meet the Czechoslovak premier on 1 August in Venice in the framework of a meeting of the so-called Pentagonal and they will hold talks there about possibilities of economic cooperation.

CSFR Envoy Presents Note to Austria on Bohunice Nuclear Plant

*AU2307171290 Vienna Domestic Service in German
1600 GMT 23 Jul 90*

[Fritz Pesata report]

[Excerpt] [passage omitted]

This afternoon CSFR Ambassador Magda Vasaryova presented a verbal note from her government to Foreign Minister Alois Mock. In this note the CSFR states its readiness to immediately start negotiations at the expert level about the operation and safety of the two units of the Bohunice Nuclear Power Plant.

Furthermore, an agreement between Austria and the CSFR about nuclear power plants came into force today. In addition to the general duty to provide information,

this agreement envisages annual expert meetings, including the measuring of radioactivity.

Austrian Minister on CSFR Nuclear Plant Inspection

*AU2307182690 Vienna Domestic Service in German
1600 GMT 23 Jul 90*

[Interview with Economics Minister Wolfgang Schuessel by Hans- Christian Unger following a meeting with Austrian Federal Power Company managers to discuss an Austrian offer to the CSFR for closing down the Bohunice Nuclear Power Plant; on 23 July in Vienna—recorded]

[Text] [Schuessel] First of all, Bohunice is the same type of plant as Greifswald in the GDR. These reactors—four units—have already been closed after a check by the Siemens Company. I have just talked to CSFR Economics Minister Dlouhy. Tomorrow he will agree on a similar inspection of Bohunice by Siemens. I have insisted very much that Austrian experts be permitted to participate in this.

Our second offer is that we would be able to compensate for the capacity of Bohunice until the end of August if Bohunice is closed for the inspection. This is about 880 megawatts. This will cost about 70 million schillings per week. For this—and I will propose this to the Cabinet—Austria would have to be willing to make contributions. The Federal Power Company has offered me prefinancing for this project, because at the moment we are not able to establish a legal basis for this.

[Unger] Even if the Federal Power Company prefinances the deliveries of electricity, in the end they would have to be paid by the CSFR.

[Schuessel] No. We would finance the period of the inspection, a brief period.

[Unger] To come to the point: The Austrian Government would perhaps be willing to pay for the deliveries of electricity, which would be necessary to compensate for the closing of Bohunice until the end of August?

[Schuessel] For the period of the inspection. I do not think that we are able to substitute for Central European energy. We are willing to do this for the duration of the inspection.

Austrian Minister on Shutting Down CSFR Nuclear Plant

*LD2307222890 Prague Television Service in Slovak
2000 GMT 23 Jul 90*

[Interview with Marilies Flemming, Austrian minister for family, sports, and environment, by unidentified correspondent in Bratislava on 23 July—live or recorded; no video available; Flemming speaks in German with Slovak translation superimposed]

[Text] [Correspondent] Mrs. Minister, when we last interviewed you, you spoke about a new stage of development between Czechoslovakia and Austria in the field of ecology. Do you think you were mistaken?

[Flemming] Certainly not. It has been a wish of Mr. Chancellor [Vranitzky] and his colleagues to visit your country. We are happy that you have a new government. Today I have come also to tell you how strong our friendship is for the Czech and Slovak peoples. We are however concerned about a number of reports which we have received in connection with the safety of your nuclear power stations, in particular Jaslovske Bohunice. I think that it is our joint concern. I have come as a minister of the environment to have talks with my colleagues, and I think that we should agree to a joint proceeding against the ministers of the economy, because their interests are different. We, the ministers of the environment, must strive for the maximum protection of the safety and health of our citizens.

[Correspondent] You know of the power production situation of Czechoslovakia. Do you think a political or press campaign can deal with this?

[Flemming] We know well what your heritage is. However, when the question is how to prevent a terrible catastrophe, something similar to what took place in Chernobyl, there is only one way out: A power station like this must be shut down. The Austrian Government has said that it would take on part of the expenses for the energy which we could supply to you. This is a concrete solution.

[Correspondent] Why is Austria especially concerned with Czechoslovak nuclear power stations, and why in particular in these days?

[Flemming] We are concerned about all power stations, Yugoslav, German, or Hungarian. However, we think that there is a certain grade of security risks. The GDR has also decided to shut down the Greifswald Power Station because it did not comply with FRG security rules. Yet we think that Greifswald has been less of a nuclear security risk than Jaslovske Bohunice. Bohunice represents a danger to us all.

CSFR Minister on Nuclear Plant Talks With Austria

*LD2307223990 Prague Television Service in Slovak
2000 GMT 23 Jul 90*

[No video available]

[Text] [Announcer, in Slovak] As the Austrian Minister [Flemming] continues her talks behind closed doors with our representatives probably even now, we have been briefed on the preliminary results of these talks, after two hours of talks, by Federal Minister Josef Vavrovsek:

[Begin recording] [Vavrovsek in Czech] We have agreed on two basic directions of cooperation: the first is the

long-term cooperation in reducing energy consumption and in finding above all decentralized methods of energy production which would utilize non-traditional, renewable sources. The second direction is a short-term cooperation which focuses on reducing the risk connected with operating the existing nuclear sources—above all the V-1 power station in Jaslovské Bohunice. Both sides have agreed that there is no immediate direct risk of any breakdown. Naturally, we know—in the long-term—that this power station is burdened by two sins, so to speak: First of all by the fact that it is located in a seismically active zone, and secondly by the fact that it was designed according to standards valid at the end of sixties and early seventies and those standards were naturally less strict, ensuring safety less than the later standards. Despite this, there is no direct source of danger, however.

[Unidentified Correspondent in Slovak] In this connection international expert opinion has also been discussed, is this not so?

[Vavrovsek] This is the basis of the whole future approach. We, independently of the fact that now our Austrian colleagues have come up with the idea that something should be done quickly, long before this, we, the Czechoslovak side, asked the International Atomic Energy Agency to carry out expert checks in the framework of a routine operation program—this should take place in the first 14 days of October, and besides this, colleagues from the Slovak power generating enterprises have asked experts from the FRG specializing in improving the quality or increasing the safety of power stations, and who have gained experience at a power station of the same type in East Germany, in Greifswald—to carry out expert studies. This will take place next month, namely on 7 August, and will focus on estimating risks connected with operating the Bohunice Nuclear Power Station, because every power station is a potential source of risk, and the main task is to contain it within acceptable limits—that is, within internationally recognized limits. [end recording]

CSFR Minister Assesses Talks With Austria on Nuclear Plant

*LD2407202790 Prague CTK in English 1853 GMT
24 Jul 90*

[Text] Bratislava July 24 (CTK)—Slovak Minister Ivan Tirpak told CTK today that during talks with Austrian Environment Minister Marilies Flemming in Bratislava yesterday, the Czechoslovak side went to the limits of its possibilities to meet Austrian demands.

Although no communique was adopted, it cannot be said that the conclusions were not positive, the minister said. He explained that Czechoslovakia could not back up on the wording that Austrian experts would have observer status on a Siemens commission to conduct a study of the Czechoslovak nuclear power station at Jaslovské

Bohunice near the Austrian border, because it could not promise them information patented by Siemens and the Soviet Union.

He said that since 1986, i.e. long before the present protests in Austria, Czechoslovakia has been carrying out a program to increase the originally designed safety of the V-1 nuclear power station. The Siemens expertise [as received] is to start on August 7. There will also be a study by the International Atomic Energy Agency in October. Czechoslovakia will decide on the basis of their results, the minister said.

In Vienna, Chancellor Franz Vranitzky said today that Austrian energy supplies to Czechoslovakia during a shutdown of the V-1 plant were conditional on the participation of experts of the Austrian Forum for Nuclear Issues in the inspection at Jaslovské Bohunice.

It is inconceivable that experts of the Nuclear Forum have only observer status, he told the APA news agency. Austria is greatly interested in the shutdown of dangerous nuclear facilities close to its borders and for this reason is prepared to support their closure.

CSFR Commentator Rejects Austrian Nuclear Energy Pressure

*AU2507130790 Bratislava NARODNA OBRODA in
Slovak 20 Jul 90 p 6*

[Ivan Horsky commentary: "Dialogue Yes, but Without Conditions"]

[Text] The exceptionally rapidly developing relations between our republic and neighboring Austria are clouded again, due to the gnawing problem surrounding nuclear energy, specifically, due to the first two blocks of the V-1 power station in Jaslovské Bohunice.

The controversy discussed in the Austrian mass media and subsequent declarations made by politicians in Vienna is based on the assumption that Jiri Beranek, Czechoslovak Nuclear Commission chairman, allegedly declared that due to serious problems both blocks should be shut down in order to avoid a possible repeat of the Chernobyl tragedy.

In her first reaction, Magda Vasaryova, CSFR ambassador to Austria, declared that the blocks would be shut down, but only after two to three years. This is understandable, since our energy balance sheet is very tight and recent developments in the supply of liquid fuel only make it tighter.

Chancellor Franz Vranitzky who, among other things, requested that Marian Calfa, federal premier, react properly to Austrian fears and worries, also participated in the discussion in a decisive manner. Marilies Fleming, Austrian environment minister, let herself be heard, too. She appreciated our government's intention to shut down the operation of the two blocks, yet she spoke on behalf of the complete closure of the Bohunice Power

Plant. This happened despite the assurances given by our authorities that the remaining two blocks are completely safe.

I fully understand Austria's worries, which originate mainly from the fact that our power plants are located near its border. I also accept the decision made by (a minority of) the population which, long before Chernobyl, gave a "red light" to nuclear energy. They could do so. Austria, as a mountainous country, has unused hydro potential, namely in the Alps, yet the planned construction of hydro power plants has been postponed until an uncertain date—or until it becomes necessary—due to the population's resistance.

We, as opposed to Austria, do not have such reserves. The energy policy of the past 40 years has left behind unremovable traces. We are in a so-called vicious circle. Bound by international agreements, in which Austria is a participant, we are forced, in the interests of improving the ecological situation in Central and in all of Europe, to reduce harmful emissions coming, in particular, from the brown coal power stations.

But, on the balance sheet, there will be a power deficit. This is why, based on many criteria, we have to develop nuclear energy, while, of course, respecting maximum quality and safety. The protection of our populace and that of neighboring countries is the issue. This is why we have concluded agreements in this direction with Austria and why we invite renowned experts from foreign countries to independently evaluate the projects as well as their implementation. Of course, we have reserves, as far as reduction in consumption is concerned, yet the reconstruction of our economy within a day would be impossible.

It is a strategic, and therefore, a political question. We cannot rely only on outside help. Nor will power supplies from Zwentendorf solve our problems completely. This does not mean, however, that we are refusing cooperation and help. We are not avoiding dialogue about problems. We are asking, however, for an understanding of our problems, too. What we are refusing is a knife being held to our throat. No one likes that.

Romania Denies Nuclear Power Plant Deal With Spain

AU2607181890 Bucharest Domestic Service in Romanian 1700 GMT 26 Jul 90

[Text] In connection with the information disseminated by VOA in its broadcast of 24 July at 2000 this year, which cited extensive excerpts from the WEST BERLINER TAGESZEITUNG regarding a hypothetical acquisition by Romania of a Spanish nuclear power plant already built in the Basque Provinces, the president of the National Commission for the Control of Nuclear Activity, Mr. Stefan Alexandru Olariu, stated the following to our radio station:

Romania is cooperating in the use of nuclear energy with the Vienna-based International Atomic Energy Agency and in the field of building the Cernavoda Nuclear Power Plant only with Canada, Italy, and the United States.

In view of this situation, it is clear that the information taken over by VOA from the daily WEST BERLINER TAGESZEITUNG lacks any basis because it is based on unverified assumptions.

Romania does not intend to acquire any nuclear power station from Spain. Certainly, the Romanian side is open to any form of technical, scientific, and commercial dialogue on this subject and is ready to exchange information with the Spanish side within the strict framework of international regulations and commitments in this area, but no accord exists between Romanian and Spanish companies in connection with acquiring a nuclear power plant built in Spain.

At the same time, we want to express our surprise at the superficial way in which some publications and radio stations disseminate information at variance with the truth and intended to harm the interests of Romania, the president of the National Commission for the Control of Nuclear Activity, Mr. Stefan Alexandru Olariu, stated to our radio station.

CSFR To Continue Nuclear Plant Operation; Austrian Views Rejected

LD2607165990 Prague CTK in English 1627 GMT 26 Jul 90

[Text] Prague July 26 (CTK)—The Czechoslovak Government decided at its session today that the V-1 nuclear power plant in Jaslovské Bohunice, West Slovakia will continue operation at least until three expertises [as received] have been carried out, i.e. by the end of November 1990.

The information was given by government spokesman Zbynek Fiala at a press conference today. The Austrian Government has demanded an immediate shutdown of the plant.

The Czechoslovak Government met an Austrian request that representatives of the Austrian Government participate in expertises which will be started by the West German company Siemens on August 7, or form its own group of experts. Siemens has equipped the power station with diagnostics equipment which is to increase safety.

In addition to expertises to be carried out by Siemens and the International Atomic Energy Agency (IAEA), also the European Community will send its commission to Jaslovské Bohunice. The Czechoslovak Government believes that the three expertises will ensure an independent view on the problem of safety and shutdown of the nuclear power station if necessary.

The government asked ministers Josef Vavrousek and Vladimir Dlouhy to form a Czechoslovak commission for a comprehensive assessment of the condition of the V-1 nuclear power plant in Jaslovske Bohunice.

The Czechoslovak Government issued a statement on the V-1 nuclear power plant in Jaslovske Bohunice which says that it reacts to reports in Czechoslovak and foreign, especially Austrian, media concerning operation of the Bohunice plant, and primarily an interview given by Jiri Beranek, former chief nuclear safety inspector of the Czechoslovak Atomic Energy Commission, to the Slovak paper NOVE SLOVO on June 14, 1990. Besides details about the power plant's safety standards the information also contained a warning against its continued operation. "The government declares that it is fully aware of its responsibility to its own citizens and neighbouring states. At the same time it does not regard some statements on the Austrian part as proper with regard to the principles of friendly relations between neighbouring states".

The government noted that the structure, location and safety system of the plant "are not up to the present world standard. However, despite preliminary findings that the condition of the V-1 plant is not fully satisfactory, it is not necessary to stop its operation".

The government noted that about 35 similar reactors are in operation in east and west at present. The V-1 plant in Jaslovske Bohunice is the last, i.e. the youngest power station of this type built in the Council for Mutual Economic Assistance member states and its operating reliability is still of a world standard. A program of increasing the safety and operating reliability of the plant was worked out in 1986 and has been gradually implemented.

Operation is currently regulated by the principles of a special regime approved and monitored by the state inspection for nuclear safety of the Czechoslovak Atomic Energy Commission. The plant uses diagnostic equipment supplied by Siemens - KWU and its condition is assessed in detail at regular working sessions of the operating body and the state inspection, the government statement said.

CSFR's Havel Invites Austrians To Check Bohunice Plant

AU2707120890 Vienna WIENER ZEITUNG in German 27 Jul 90 p 1

[Unattributed report: "Vranitzky Wants to Hold Talks With Calfa"]

[Excerpt] Salzburg—Czechoslovak President Havel has formally invited Austria to participate in the safety inspection of CSFR nuclear reactors. Austria can do this either alone or together with other bodies, Havel said in

a talk with President Waldheim and Chancellor Vranitzky on the sidelines of the Salzburg Festival. Chancellor Vranitzky will also discuss questions of CSFR energy policy with Czechoslovak Premier Marian Calfa next week.

On Wednesday [25 July] the Chancellor's Office published Chancellor Franz Vranitzky's letter to Czechoslovak Premier Marian Calfa, in which the chancellor asks for an overall inspection of the Bohunice Nuclear Power Plant, which is close to Austria's border, and expresses Austria's readiness to make up for the CSFR's energy losses resulting from it.

The fact that the inspection of the Bohunice Nuclear Power Plant that had been planned for the fall has been advanced to August proves that the CSFR is now also thinking about this matter, Vranitzky stated at a news conference in Salzburg. Now cooperative alternatives to nuclear energy have to be considered, he said.

The chancellor mentioned a joint natural gas pipeline from Norway to central Europe as an example. [passage omitted]

CSFR-Austrian Talks on Bohunice Inconclusive

AU2707135490 Prague HOSPODARSKE NOVINY in Czech 26 Jul 90 p 2

[Jozef Drab report: "Czechoslovak-Austrian Talks on the V-1 Power Station: So Far Without Specific Results"]

[Text] Talks between Austrian and Czechoslovak delegations on the operation of the V-1 nuclear power station at Jaslovske Bohunice were held in Bratislava at the beginning of this week. They were attended by Marilies Flemming, Austrian minister of family affairs and environmental protection; Gabor Zaszlos, Slovak deputy premier; Minister Josef Vavrousek, chairman of the Federal Committee for the Environment; Minister Ivan Tirpak, chairman of the Slovak Commission for the Environment; as well as by experts in the field.

The talks proceeded relatively smoothly, were marked by a constructive spirit, and it seemed that they would result in a joint communique. This did not happen and, in the end, the talks did not lead to any specific conclusions. We asked Ivan Tirpak, one of the participants in these talks, about the reasons. He said that the talks concerned the specific situation at Jaslovske Bohunice from the viewpoint of safety. The Czechoslovak side pointed out that the article by Engineer Jiri Beranek, expert of the Czechoslovak Atomic Energy Commission, [in the 14 June issue of the Slovak weekly NOVE SLOVO] which stirred the controversy over the operational safety of this power station, provides a realistic account, although it contains some inaccuracies. At the same time it is taken out of context, however. Since 1986 Czechoslovakia has been implementing a comprehensive program designed to raise the originally projected and implemented safety parameters of the V-1 nuclear power

station. This program has been implemented for four years and, as such, was not adopted in response to the present reaction in Austria. The Czechoslovak officials involved in the issue have advanced the offer to the Austrian partners to participate in the survey to be conducted by the Siemens Company at Jaslovske Bohunice as of 7 August this year. Siemens carried out a survey on a similar power station in the GDR. The Austrian side accepted the offer, as it itself introduced the group which carried out the survey in the GDR [sentence as published]. The agreement was reached to issue a joint communique.

The problem is that the Czechoslovak side had not consulted Siemens in advance to inquire whether it was willing to accept a third side in the group of experts. This has prolonged the talks. For this reason the CSFR was unable to promise that even information which is protected by Siemens would be available to the Austrian side. This prompted Mrs. M. Flemming to disagree with the formulation in the joint communique that the experts nominated by Austria would have only observer

status in this commission and that they would not have access to Siemens, but only to Czechoslovak, information.

Independently of the Siemens survey, the International Atomic Energy Agency will carry out a survey [at Bohunice] this October. The results of both will be synthesized and published. At any rate, it is up to the Czechoslovak side to make any decisions [on the basis of the experts' recommendations], I. Tirpak said.

As regards the Austrian side's offer to help Czechoslovakia with energy supplies, the chairman of the Slovak Commission for the Environment said that it is currently impossible to import energy from Austria, owing to the problematic state of transmission lines and problems with securing (other) channels of transport. Apart from this, the energy situation of Austria itself and its dispositions are known to us. Austria can supply some energy to us only in the brief summer period. In the winter months, on the other hand, the Austrian grid itself relies on imports.

LESOTHO

Nation Loses 40 Millions Tons of Soil Annually

*MB2007084990 Maseru Domestic Service in English
0500 GMT 20 Jul 90*

[Text] The minister of agriculture, cooperatives, and marketing, the Honorable E.R. Sekhonyana, says Lesotho loses about 40 million tons of rich soil every year through soil erosion, and if urgent steps are not taken to reverse the situation, the country will be in a state of emergency.

In his address to the National Constituent Assembly yesterday, the minister urged chiefs through the assistance of their subjects to embark on soil conservation activities at the earliest stage. He said trees should be planted as a move to combat this alarming situation and that grazing regulations should be applied.

The minister said his ministry encourages farmers to rear few but improved livestock.

MOZAMBIQUE

Norwegian Group Finances Reforestation Project

*90AF0258B Maputo NOTICIAS in Portuguese
30 May 90 p 3*

[Article by Chimoio correspondent Fausto Henriques]

[Text] In keeping with the future need to obtain wood fuel and help maintain an ecological balance in the area, the nongovernmental Norwegian organization known as Red Barna has agreed as of February 1990 to finance a reforestation project in the province of Manica. The project involves the planting of 240,000 trees of the *Leucaena* species in a total area of about 200 hectares in the villages of Nhambonda, Marera, Bengo, and Matsinhe in the Gondola District of Manica. About 42,000 Zimbabwean dollars were allocated for the project, equivalent to a little more than 15 million meticaïs.

According to Joao Tiago Ribeiro, head of the Provincial Services for Forests and Wild Animals (SPFFB) and responsible for the project, the money could be converted into meticaïs or American dollars if the need arises, thus facilitating the purchase of raw materials and production equipment.

Other Organizations Also Interested

Despite certain difficulties, the Manica Province reforestation project financed by Red Barna has made progress. Seeing that the project is meeting with success, particularly in the production of seedlings, other organizations have requested assistance in the reforestation of the aforementioned villages.

This occurred in the case of the Manica Rural Development Program (PDRM) which calls for the reforestation

of the villages of Monte Chimoio, Ganhira, Chicaule, I A C, and Chigodore; and in the case of OXFAM [Oxford Committee for Famine Relief]—Canaca soliciting support in a project involving the planting of trees in the village of Almada in Vanduzi.

Joao Tiago said that, in view of the possibility of satisfying these requests, "we are increasing our production level to 500,000 trees." He also said that the support given by these two organizations will be on a nonprofit basis and will serve only to compensate the entities involved for the additional plantings.

Our information source also said that Manica's Provincial Directorate of Agriculture (DPAM), in cooperation with those services, has drawn up a document directed to the provincial organizations in question urging them to help solve the problem of the people's wood-fuel supply and also help maintain an ecological balance in some parts of the province's central area, particularly where forests farms have given way to collective farms and the cutting of trees for firewood.

He told our news staff that one of the essential objectives of this cooperation was to help solve a number of concurrent problems, such as fertilization of the soil through the forestation, the production of traditional construction material, and forage for the animals.

According to the head of the SPFFB, Red Barna was the first organization which responded to the appeal for money and this made it possible to begin the project in February of this year, with two intermediate forestry technicians and 10 field workers.

It is known that due to the social instability prevailing in some areas of the province, many of the rural inhabitants are presently moving to safer areas, such as those in the vicinity of Chimoio, district headquarters, and other urban centers. Generally speaking, the number of people inhabiting those urban centers is greater than the volume of forest area that surrounds them.

Throughout the last few years, the forest area has been gradually diminishing to the point where it now has a radius which is greater than five km from the site of the urban population, causing the inhabitants to settle elsewhere in search of wood fuel and thus lowering the production yield per family.

"The most alarming situation is that which prevails around the districts of Chimoio whose inhabitants have less purchasing power with regard to wood and are thus forced to use shrubs, branches, and corncoobs; in fact, anything which can be used as fuel. Another problem is that encountered along the Beira corridor where the felling of trees has caused extensive erosion and the silting of rivers and dams," said Joao Ribeiro, adding that in some rivers there is no longer any water, except when it rains.

Since Manica Province has a hilly terrain, the people use the river valleys, mountain sides, and other slopes for agriculture, which adds to the problem.

Recently, the SPFFB had to take drastic measures with the assistance of local organizations and districts in Chicamba and Mavuz where there are hydroelectric dams located in areas considered safe but where the rural population is prohibited from establishing collective farms remote from the dam sites themselves, which could contribute to the indiscriminate felling of trees for clearance purposes.

Introducing the *Leucaena* Species

"In view of all these problems and based on the laws in effect in the country, the services in question are responsible for promoting the reforestation of the devastated areas, an activity which the state is not presently able to subsidize. Hence, our appeal which received an immediate response from the Norwegian organization, Red Barna," says our source.

It is to be noted that the document calling for assistance involves a type of plant which solves a number of problems simultaneously—the *Leucaena*. According to Joao Ribeiro, it grows rapidly, attaining a height of six meters in two and one-half years as verified in an experiment carried out on a private farm in the vicinity of Chimoio where, in eight months, the trees reached a height of two to three meters, some already sprouting seeds.

A number of publications were also sent to the organizations to which appeals had been made disclosing the results already obtained in Malawi where, for example, there are extensive areas of forests being utilized by the peasants for a combination of agricultural and forestry activities, with positive results. "The yield per hectare has doubled due that combination of activities, for *Leucaena* is a tree which stores nitrogen in the soil and this promotes agricultural growth," said Joao Ribeiro.

"After the money becomes available," explains our informant, "the work begun in February with the establishment of a nursery will show good progress inasmuch as the planned production of saplings scheduled to begin in the current month will benefit from the humid conditions obtained in the low areas prior to the dry season."

Initial Planting in Nhambonda

The village of Nhambonda was chosen as the project's pilot model and "our attention will be directed principally to that village in our attempt to solve the people's troublesome situation," said Joao Ribeiro.

The work involved in the project is more in the nature of forestry development in that a technician housed in the village will remain on call 24 hours per day, directing, listening, and disclosing all the aspects of the project and its objectives. Two intermediate-level technicians of the

DPA [Provincial Directorate of Agriculture] are also on hand and will be provided living quarters by designated families in Nhambonda.

The work to be performed in this village will begin with the participation of the peasants guided by the technicians in laying out the forested plots, aligning the trees to be planted, digging the holes in which the saplings are to be planted, and the actual planting itself, the entire procedure being explained by the technicians.

"We had problems in the beginning due to the lack of familiarity with this new activity and we received assistance and cooperation from political organizations and the elderly. We are doing this because we want the forest to be preserved and utilized for firewood and other purposes in the province and we hope to have good results," said Joao Tiago Ribeiro in conclusion.

It is to be noted that this project has been closely followed by Red Barna, which is also interested in providing support to other villages in the province in the future. Hence, the Norwegian firm is attempting to encourage the peasants to obtain technical knowledge regarding this problem for further implementation in the neighboring villages.

SOUTH AFRICA

Post-Apartheid Environmental Issues Addressed

Albie Sachs on Policy

34000807 Johannesburg THE WEEKLY MAIL in English 25-31 May 90 p 13

[Article by Eddie Koch: "What About a Bill of Rights for Trees?"; first paragraph THE WEEKLY MAIL comment]

[Text] ANC constitutional expert, Albie Sachs, argues that the "freedom" of the trees, the land, the waters and the sky is as important as the freedom of the people.

If Albie Sachs has his way South Africa, arguably among the most polluted lands on earth, will become the second in the world to protect its ecology in a Bill of Rights.

Sachs, the African National Congress' foremost thinker on constitutional issues, delivered a cogent argument for environmental rights to be safeguarded in a post-apartheid constitution at a conference in Pretoria organised by Lawyers for Human Rights at the weekend.

"It is not just playing with metaphors to say that were fighting to free the land, the waters, the sky as well as the people," says Sachs.

Environmentalists and lawyers responded enthusiastically to suggestions that they examine ways in which conservation could be dealt in a new constitution.

And among them was Mr Justice P. Olivier, vice-chairman of a government commission charged with devising a Bill of Rights for South Africa.

The landmark paper, likely to promote a vigorous debate in environmental circles, notes there are compelling reasons to exclude the environment from the agenda of resistance movement.

"But we must take responsibility for our country and its future in all its dimensions and implant the question of conservation firmly within our social and geographic reality. Human rights in the broadest sense are indivisible. ..When we breathe the air of freedom, we do not want to choke on hidden fumes."

In a section of the paper, provocatively entitled "Do Trees Have Rights?" Sachs outlines ways in which respect for ecosystems can be entrenched in the constitution of a new South Africa.

The preamble of such a charter could define principles whereby South Africans should relate to each other and their natural environment.

Sachs suggests the charter could include provisions that will oblige the state to examine the potential environmental impact of any laws that pass through its legislature.

A separate code for the environment, linked to the constitution but more detailed in its provisions, could lay down regulations regarding pollution, the disposal of toxic waste, soil erosion and protection of species.

"Finally the constitution could acknowledge that our country is part of the African continent and the question of ecology has both a regional and a continental dimension."

Namibia is the only other country in the world that has included the environment in its constitution.

A section in that nation's charter requires the state to actively promote policies that protect the territory's ecosystems and biological diversity.

It also stipulates that natural resources be used by industry and communities in a sustainable way.

Although concern for the environment in South Africa has, until recently, been subsumed by the more burning issues of race and class exploitation, Sachs believes that those who take part in the fight against apartheid are driven by an urge to reconnect with nature.

"When we say Mayibuye i'Afrika, come back Africa, we are calling for the return of legal title but also for the restoration of the land, the forest and the atmosphere: the greening of our country is basic to its healing."

But Sachs warns that constitutional protections will not be worth the paper they are written on if a post-apartheid state does not deal with the problems of the labouring poor.

Air pollution and environmental toxins cut across race, class and political boundaries and threaten the natural ecology.

"But we often forget that the most immediate victims are the workers who are expected to spray trees or handle toxic materials without themselves being protected. The guarantee of a safe and clean working environment becomes a key question for any trade union and integrates itself into the question of a safe and clean South Africa."

Sachs insists that a serious programme to protect and mend the country's ecosystems has to deal with the question of poverty and the need to provide all citizens with basic social and welfare facilities.

Front Line States' Role

34000807 Johannesburg THE WEEKLY MAIL in English 25-31 May 90 p 13

[Text] Frontline states can provide South Africa with a cure for the ecological damage caused by the government's "state of siege" energy programme.

Professor Anton Eberhard, head of the University of Cape Town's Energy Research Institute, says Pretoria's traditional foes in Southern Africa hold the key to this country's air pollution problems.

One dam on the Zaire River could, for example, provide South Africa with more hydro-electric power than the combined output of all 12 of the coal-burning power stations in the Eastern Transvaal.

"Eskom has already begun to look at this option, especially because it is a way of attracting capital from abroad for investment in a plant that will supply South Africa with energy," says Eberhard.

"But Zaire is not the only country with this potential. Many of the rivers in Angola, Zambia and Zimbabwe could be used for this purpose and the Cahora Bassa scheme in Mozambique can be expanded."

Hydro-electric dams are the cheapest way to generate large amounts of electricity. They utilise technology that has proven to be reliable and are comparatively safe environmentally.

"The other great advantage of dams is that they do not consume vast and finite sources of fossil fuel. Unlike coal, their supply of water is renewable and does not generate waste."

The key to utilising this potential lies in South Africa being admitted to the Organisation of African Unity and the Southern African Development Co-ordinating Conference.

Says Eberhard: "A series of regional hydro-electrical schemes in a Southern African economic community could provide the basis for balance and collaboration between the countries of the region."

He points out that South Africa has the potential to develop other renewable sources of energy—if the government puts more of its resources into research and development.

Ecologically safe methods of generating, and saving electricity, include:

- The creation of wood lots in rural villages, South Africa's 10 "homelands," deprived of cheap electricity, are already consuming more wood as fuel than their lands produce each year, says Eberhard.

"At the current rate of consumption, South Africa's total woodland resource will be wiped out in 40 years. Countries like Korea have implemented tree-planting programmes that show wood lots can become viable sources of fuel for rural communities within seven years—if there is a political will."

- The use of solar-powered photo voltaic cells. These are expensive but can be installed by industrial plants to minimise their drain on electricity supplies.

- Designs for low-cost housing that ensures effective insulation and limits the need for heating.

- Solar water heaters halve the amount of electricity used by traditional geysers. In Israel, for example, 60 percent of homes are fitted with such equipment.

- Wind generators can be used to supplement a national electricity grid at selective sites along the coast.

"The problem," says Eberhard, "is that the government now devotes about R3-million to R4-million for research and development of renewable energy—a mere fraction of the R750-million given to the Atomic Energy Corporation."

Apartheid 'Culprit'

34000807 Johannesburg THE WEEKLY MAIL in English 25-31 May 90 p 13

[Article by Eddie Koch: "Apartheid's Poisonous Fumes Are Destroying the Environment"]

[Text] White South Africans poison the air with more carbon dioxide, the main agent of acid rain and the greenhouse effect, than any other population group on the globe.

The claim is made by the World Watch Institute, a Washington-based ecology monitoring group, in a report released this month and entitled "Apartheid's Environmental Toll."

Alan Durning, author of the report, argues Pretoria's energy policies have forced South Africans to manufacture fuel and electricity in a way that is more damaging to the atmosphere than in any other part of the world.

"Apartheid has distorted the nation's pattern of energy use as dramatically as its pattern of land ownership," says the report.

The reasons are threefold: large indigenous reserves of coal, exploitative labour practises in the mining industry, and Pretoria's "state of siege" approach to the production of energy.

South Africa's use of its coal reserves place it second after Korea in terms of reliance on coal-burning power stations and fuel-from-coal. About 85 percent of the nation's energy derives from this ecologically destructive source.

Suppressed wages for miners, lower than any other industrial country, makes South African electricity among the cheapest in the world. As a result, white South Africa is the most energy-intensive country—except for the old centrally planned economies of Eastern Europe.

And the international oil embargo against South Africa has led the government to a "quest for energy independence with dire consequence for the environment."

South Africa has a concentration of power stations—12 huge plants that provide 80 percent of the nation's electricity—in a small region of the Eastern Transvaal Highveld. The country's coal reserves are conveniently located here but there are no supplies of water to filter emissions that spew out of the stacks.

The statistics of pollution generated by these plants are now legion: every year between 30 and 57 tons of sulphur dioxide are pumped into each square kilometre of air. In East Germany, one of the most polluted countries in the world, emissions are only 30 tons.

The two Sasol plants at Secunda and Sasolburg, which turn coal into oil, are the other chief culprits.

For most Johannesburg residents, the symptoms of the damage that Sasol's production process does to the ecology is the smell of rotten eggs that wafts across the city when the wind blows from the east.

The consequences for those who live closer to the Sasol plants in the Vaal Triangle or the Eastern Transvaal are more ominous. World Watch echoes the complaints of local doctors by warning that people in these areas are more likely to suffer from asthma and chest colds and will take longer to recover from respiratory disease than people in rural areas.

"Moreover," says Durning, "apartheid's coal dependence accelerates global climate change."

The emission of carbon from South Africa in 1987 was 77.5-million tons—a small amount for a country of nearly 40-million people but vast for the five million whites who consume the bulk of the country's energy.

"If energy consumption patterns mirror income distribution, as is likely, the white population's per capita carbon emissions stood at more than nine tons in 1987," says Durning.

In that year the world average was one ton a person.

"On a per person basis, white South Africans are the world's worst greenhouse offenders," says Durning.

Foreign Scholars Study Northeast China's Forest Ecology

OW2107024590 Beijing XINHUA in English
0202 GMT 21 Jul 90

[Text] Shenyang, July 21 (XINHUA)—Foreign scholars and ecologists are flocking to the Changbai Mountain area in northeast China to cooperate with local scientists in the study of forest ecology.

According to the Changbai Mountain Research Station for Forest Ecosystems of the Chinese Academy of Sciences, more than 100 scholars from the Federal Republic of Germany, the United States, Britain, Japan and a dozen other countries have come to work at the station and carry out surveys.

International cooperation in the study of the ecosystem of the Changbai Mountain area has been stepped up since 1986, when an international symposium on the management of forest ecosystems and environmental protection in the temperate zone was held in Shenyang, the capital of northeast China's Liaoning Province, an official from the station said.

The Changbai Mountain area, situated in the eastern part of northeast China, stretches across Liaoning, Jilin and Heilongjiang Provinces, skirting the border of the Democratic People's Republic of Korea. It is an ancient folded mountain area formed by the actions of volcanic eruption and rivers. At an elevation of 200 to 2000 meters above sea level, the main area covers about 70,000 square kilometers. The main vegetation in the locality is the broadleaf Korean Pine, constituting one of the major forest zones in the country. Animal and plant species are abundant.

Due to the sharp increase in population, rapid economic development and poor management, forest coverage has dwindled over the past century, especially over the past decades. The whole forest zone is facing "a severe exhaustion of exploitable forest resources," in the words of Zhao Shidong, a research fellow and deputy director of the Shenyang Applied Ecology Institute of the Chinese Academy of Sciences.

The Chinese Government has established a 200,000-hectare nature reserve in the Changbai Mountain area, set up a forest ecosystem station and encouraged international cooperation in finding ways to save the valuable resources endowed by nature.

The unique forest ecosystem and the great biological diversity in the area are extremely attractive to foreign scholars, Zhao said, because similar forest ecosystems in North America and Europe have been destroyed by felling or glacier movements.

International cooperation in the study of the Changbai ecosystem is mutually beneficial and will help promote the development of forest ecosystem research and improve researchers and their methods, Zhao noted.

The Sino-German cooperative ecology research program is progressing smoothly and fruitfully, he said. The Shenyang Applied Ecology Institute, the Changbai Nature Reserve Management Bureau, and [the] Environmental System Research Institute and [?]in Berchtesgaden of the Federal Republic of Germany are participating in the project. The project is aimed at establishing a geological information system in the Changbai biosphere protection zone and on this basis, making a comprehensive analysis of the existing data in order to provide a scientific basis for the protection and continued development of the forest resources.

The Changbai Ecosystem Station is also cooperating with three U.S. universities in executing a program known as "Sino-biosphere research." The program includes three research projects—the functions of fallen trees in the forest ecosystem in the temperate zone, the circulation of nutrients in the forest ecosystem in the temperate zone, and the forest growth model in China's northeast area.

The cooperation project between China and Japan on the activity of volcanoes and its impact on the changes of vegetation has already determined that the last volcanic eruption took place about 1,100 years ago.

The Changbai Ecosystem Station is also cooperating with the British Continental Ecology Institute in the study of the ecology of the fortnite subspecies of broadleaf Korean Pines.

According to the deputy head of the station, consultations are going on with scholars from Japan, Korea, the Soviet Union, Yugoslavia, Bulgaria, and Sweden for new cooperation projects.

Our goal is to make our ecosystem station an internationally influential demonstration center for the operation and management of the forest ecosystem and nature reserves in the temperate zone, Zhao said.

PRC Environmental Official Outlines International Views

OW2107111690 Beijing XINHUA in English
0732 GMT 21 Jul 90

[Text] Changchun, July 21 (XINHUA)—While striving for a better environment, China places the interests of developing countries in an important position and cannot fully comply with some of the policies and views of developed countries which regard the protection of the interests of big capitalists as prerequisites, said State Councillor Song Jian.

Song, who is also director of the State Council's Environmental Protection Committee, told a national nature reserve conference here on Friday that China's position on the problem is determined by the fact that there is no true equality in the world today and the principles guiding international relations are mainly driven by interests.

Song said the economies of the overwhelming majority of the developing countries are still at the stage of meeting the basic needs of their people and face shortages of funds and backward technology, compounded by environmental problems, including desertification, water and soil loss, water shortages, flooding and drought.

While approaching global environmental problems, Song noted, China will have to proceed from its actual conditions and make contributions based on its capability and pay full attention to the interests of the people of the Third World.

China's environmental problems are more outstanding than those of developed countries, he said, because China has a large population and the average availability of natural resources per capita is very low. This, along with some past errors made in developing natural resources owing to lack of understanding of the laws governing ecology, have brought about more problems.

Song declared that China, as a country with [the] richest species in the world, will actively join the worldwide efforts to protect bio-diversity, one of the hot projects in global ecology and environmental protection, although it is facing the conflict of protecting bio-diversity and exploiting natural resources and shortages of funds and technical personnel.

But, Song pointed out, while protecting bio-diversity, the sovereignty of developing countries with regard to natural resources and their exploitation brooks no infringement and that developed countries should shoulder more economic responsibility in protecting the world bio-diversity.

China has always held a positive attitude toward the global environmental issue, he said. Last year, China joined the Vienna convention for protecting the ozone layer and signed the Basel convention for controlling the transportation of toxic and dangerous goods and is preparing to sign the Montreal protocol for restricting the production of chloride-fluoride-hydrocarbon products.

"We are willing to join our efforts with other countries in seeking an effective way to solve global environmental problems through extensive international cooperation and are committed to appropriate responsibilities and obligations," Song Jian said.

Song said China is ready to map out a program of action for protecting China's bio-diversity and list areas with high bio-diversity but weak ecology, and list endangered species that need protection in their habitats or removal, and work out protection plans and programs of action.

China plans to hold a national symposium on the protection of bio-diversity at the end of this year or at the beginning of the next to solicit expert advice for mapping out the program of action, he said.

It will seek funds for protecting bio-diversity and involvement in international cooperation, and increase awareness of the need to protect bio-diversity by publishing a number of books and monographs on bio-diversity, the state councillor said.

Song Jian Urges Building, Management of Nature Reserves

OW2707064290 Beijing XINHUA Domestic Service in Chinese 1340 GMT 23 Jul 90

[By Reporter Zhu Youdi [2612 1635 2769] and Zhao Yuqing [6392 3768 1987]]

[Text] Changchun, 23 July (XINHUA)—At the closing session today of the national work conference on nature protection, Song Jian, state councillor and chairman of the State Environmental Protection Committee, proposed that: In dealing with environmental protection and efforts to prevent pollution and to bring it under control, China must also gradually intensify its efforts to build a better environment. At the present moment, we must accord full attention to the building and management of our nature reserves.

Song Jian said: The protection of nature is a complex issue, and requires the coordination and support of all localities and departments. The tasks involved in protecting nature are numerous, such as preventing industrial pollution, soil erosion, deterioration of grasslands, land turning into deserts and excessive logging, as well as promoting eco-agriculture and protecting the urban ecosystem. Forceful measures are needed to ensure their success.

Qu Geping, vice chairman of the State Environmental Protection Committee and director of the State Environmental Protection Bureau, called on environmental protection departments at all levels to work with all relevant departments to find out, as soon as possible, the state of nature protection in their localities, and to draw up plans to develop nature reserves. Priority should be given to natural ecology worthy of protection and which are in a dire state.

Progress Reported in Extension of Nature Reserves

OW2107170690 Beijing XINHUA in English 1125 GMT 21 Jul 90

[Text] Changchun, July 21 (XINHUA)—China's nature reserves have increased from 59 in 1979 to today's more than 600, covering three percent of the nation's territory.

Seven of these reserves have joined the world biosphere protection network. They are Changbai Mountain Reserve in Jilin Province, Dinghu Mountain Reserve in Guangdong, Wolong Reserve in Sichuan, Fanjing Mountain Reserve in Guizhou, Wuyi Mountain Reserve in Fujian, Silingol Reserve in Inner Mongolia and Shennongjia in Hubei.

It was revealed at a national nature reserve conference now in session here that China will increase its nature reserves to cover four to five percent of its area by the year 1995 and the coverage of nature reserves is expected to reach the world average by the year 2000.

Deputy Director of the State Environmental Protection Bureau Jin Jianming told the conference that the country invested nine million yuan over the past decade in the construction of nature reserves, including those for protecting forest ecosystems, pastures, deserts, swamps and marine reserves as well as topography and historical relics.

At the same time, he said, China has spent six million yuan to construct sanctuaries to protect rare species in Yunnan, Henan, Zhejiang, Jiangxi and Liaoning. They include the milu (David's deer) garden in Nanyuan in Beijing, the blue pheasant breeding farm at Zhangye in Gansu, and farms for breeding various types of lilus, bur tea and wild wintersweet in Hubei.

A number of endangered plant and animal species have successfully been bred artificially. They include the giant panda, David's deer, the Yangtze crocodile and the red-crowned crane. By the end of 1988, China had established 227 rare animal artificial breeding farms and 255 rare wild plant farms. More than 600 species of rare plants and animals listed by the state for priority protection are now being protected either by removing them from their natural habitat or in their habitat. Some of them have multiplied.

State Councillor and Minister of the State Council's Environmental Protection Commission Song Jian sets

great store by the construction of nature reserves, which he regards as of strategic importance in economic development and future social development and in protecting bio-diversity and controlling the deterioration of the ecology. He has urged the building of more nature reserves before the population growth reaches its peak period.

Song said it would be a great tragedy if many of the national treasures such as the giant panda, the white-flag dolphin, and the northeast China tiger become extinct in the hands of the present generation.

China is now striving to make rational use of and protect natural resources, especially renewable resources, bring under control the deterioration of the natural environment, especially the rural environment, and balance ecology and population growth and social and economic development by the year 2000, according to reports made at the conference.

Specifically, the country will strengthen the management of the existing nature reserves in east and central China and on the Tibet- Qinghai Plateau and in northwest China as a whole, and build more nature reserves in big and medium-sized cities in the coastal areas so that the coverage of nature reserves by the year 2000 will reach the world average.

In rural areas, efforts will be made to adjust the structures of township enterprises to control pollution, give priority to the development of animal by-products and further perfect existing eco-agricultural projects and at the same time tighten control over construction projects to prevent the destruction of ecology.

INTER-ASIAN

Pacific Forum To Focus on Environmental Issues

*BK2607095190 Melbourne Overseas Service in English
0500 GMT 26 Jul 90*

[Text] Officials from 15 South Pacific Forum member states have ended three days of talks which [words indistinct] agenda largely focusing on environmental issues for next week's regional heads of government meeting in Vanuatu. An official of the forum Secretariat said the leaders' summit will look at a wide-range of environmental issues, including French nuclear testing at Mururoa Atoll, waste dumping at sea, the destruction of coastal ecosystems, and mining pollution.

The burning of chemical weapon stocks at Johnston Island by the United States will also be discussed, as well as driftnet fishing by Asian fleets in the South Pacific.

The officials have been meeting in the Vanuatu capital, Port Vila.

New Zealand's Palmer Welcomes Japanese Driftnet Fishing Suspension

*BK1807102890 Melbourne Overseas Service in English
0803 GMT 18 Jul 90*

[From "International Report" program]

[Text] The Japanese Government has announced it will suspend the practice of driftnet fishing by its fleets in the South Pacific from October. The driftnets, sometimes called the wall of death, can be up to 60 kilometers long and can trap birds and dolphins as well as commercial fish. The move has been welcomed by the Australian and New Zealand Governments as well as the leading regional body, the South Pacific Forum.

The New Zealand prime minister, Mr. Geoffrey Palmer, who has been at the forefront of the push to stop driftnets, gave his reaction to Gordon Taylor.

[Begin recording] [Palmer] I am absolutely delighted. As the New Zealand prime minister, I have been carrying out a campaign against driftnetting since my speech at the United Nations last year. And the fact that we managed to get an agreement on the end of driftnetting by the Japanese is wonderful. I really commend the Japanese Government for this. They were under no obligation to do it for another year and I think the fact that they have done it shows that they are responsive to opinion in the Southwest Pacific.

[Taylor] But you do not think it is a hollow victory? Japan has said that it remains eager to resume driftnetting if regulations can be developed.

[Palmer] You cannot find regulations that will allow driftnet fishing to continue. The reason for that is that it is such an indiscriminate method of fishing, that is, it destroys everything that comes in its way—dolphins,

porpoises, whales, birds, everything. The damage it does is so colossal. It's got to be banned.

[Taylor] So, there is no compromise there. It has to be totally banned?

[Palmer] That is correct. Yes.

[Taylor] The Japanese seem to be under the understanding that if a management regime particularly for the albacore tuna can be worked out, they could start driftnetting again.

[Palmer] I think a management regime for the albacore tuna needs to be worked out, but I think that is by ordinary long line and other fishing methods, not by driftnetting.

[Taylor] Well, Taiwan has not imposed the ban. Taiwan is still driftnetting in the region. How far are we toward the universal driftnetting? [as received]

[Palmer] Well, all the South Pacific nations should be of the same view. I think the pressure is now going to be on Taiwan in a pretty heavy way. I do not see how the Taiwanese can stand up against what is now universal international opinion. I think they are going to have to give way.

[Taylor] And how are we to pressure the Taiwanese to give way?

[Palmer] We have got a number of methods of doing that. This issue is bound to be discussed at the forum which is starting in Vanuatu at the end of next week and I am going to Japan before that time and I hope to get some information about the Taiwanese before I go.

[Taylor] What about Japan's relations with (?places) like New Zealand, Australia, and other South Pacific nations following this decision? Will it improve its position in the South Pacific?

[Palmer] Absolutely. I think driftnet fishing was the only irritant to the relationship between Japan and New Zealand. With that removed, we should have a very good relationship, indeed. [end recording]

Taiwan To Continue With Driftnetting Until Mid-1991

*BK1807104190 Hong Kong AFP in English 0840 GMT
18 Jul 90*

[Text] Wellington, July 18 (AFP)—A Taipei diplomat said Wednesday Taiwan fishing boats would continue for another year using the controversial driftnetting technique in the South Pacific despite a Japanese decision announced Tuesday to stop the practice forthwith.

The secretary of the Republic of China embassy in Tonga, Wendell Sung, said his government had decided it would stop driftnet fishing in the region by June or July 1991.

No more licences would be issued but the practice would continue for about another year, he said.

New Zealand Ministry of External Relations Environment official Roy Ferguson said Taiwan and Japan had about 20 vessels from which driftnets were set in the South Pacific this season. The previous season (1988-89) Taiwan had about 120 vessels and Japan had 60.

The main fishing area in the early part of the season, November to December, was in the Tasman Sea between Australia and New Zealand, outside their respective 360 kilometre (200 mile) exclusive economic zones. Later the boats moved to the east and north of New Zealand, he said.

INDONESIA

74 Million Acres of Forest To Be Cut for Farming *BK1207012290 Hong Kong AFP in English 1804 GMT 11 Jul 90*

[Text] Jakarta, July 11 (AFP)—Thirty million hectares (74 million acres) of Indonesian forest will be chopped down in the next decade for rice and other agricultural production, the minister of the environment said here Wednesday [11 July].

"Of 144 million hectares (of forest), 48 million will be protected forest where activities won't be allowed," the minister, Emil Salim, said during an economic forum.

Sixty-six million hectares (160 million acres) will be "for selected cuttings" and "30 million will be subject to changes for transmigration purposes ... like rice and other kinds of crops," he said.

Mr. Salim said the government was studying ways to enforce a law that requires forestry firms to cut wood in prescribed sites and plant new trees in denuded areas.

Indonesia, thanks to its abundant forests, constitutes the world's second largest source of oxygen after the Amazon.

The proportion to be used for agricultural purposes will be developed by migrant workers, mainly from the overpopulated island of Java, where 110 million of Indonesia's 182 million people live.

With aid from the World Bank, the government since 1969 has transferred nearly two million Javanese to the island of Sumatra, Kalimantan and Irian Jaya—a policy that environmental activists have always severely criticized.

SOUTH KOREA

Oil Spill off Incheon Coast Contaminates Widening Area

*SK1707000590 Seoul THE KOREA TIMES in English
17 Jul 90 p 2*

[Text] Incheon—About 500 tons of Bunker-C oil leaked from a 16,000-ton oil tanker which collided with another oil tanker off this port city Sunday morning, and a large part of the sea has been contaminated by the spilt oil.

A huge belt of the spilt oil covered seas off Wolmi Island, the ferry boat terminal and Palmi Island and the contamination is expanding rapidly aided by sea currents.

The mishap occurred at 9:43 a.m. Sunday when the 16,813-ton Korea Sunny Hill oil tanker rammed into the bow of the Korea Hope sailing into the Incheon port carrying 16,500 tons of Bunker-C oil. At that time, the visibility was only 0.8 km.

Due to the impact, two out of 33 oil tanks in the oil tanker were ripped open and Bunker-C oil gushed out, polluting the sea 1 km off Wolmi Island.

At the time of the collision, the Korea Sunny Hill was heading for Yosu port after discharging Bunker-C oil at the Honam Refinery oil depot. The two oil tankers are both operated by Daehan Oil Tanker Co.

Shortly after the mishap, maritime police mobilized 30 ships to install a 4 km oil fence around the Korea Hope, but to little avail due to swift currents in the sea.

The ships also sprayed oil coagulant and other chemicals to prevent the spread of the oil spill.

Maritime police viewed that the spilt oil will continue to diffuse and reach seas off Yongjong Island, Sihwa and as far as Asan Bay areas in Chungchongnam-to in a few days.

Oil Tanker Collisions Endanger Sea Life

*SK2007235590 Seoul THE KOREA HERALD in
English 21 Jul 90 pp 2, 5*

[Text] Sea pollution and losses incurred by fishermen are increasing following a series of oil tanker collisions off the west coast over the past 10 days.

Two oil tankers owned by a Korean firm collided in the sea off Incheon last Saturday, spilling over 1,000 tons of Bunker C-oil.

The accident occurred when the 16,813-ton Korea Sunnyhill allegedly struck the bow of the 16,644-ton Korea Hope, loaded with Bunker C-oil, about 1km from Incheon because of dense fog, maritime officials said yesterday.

The Korea Hope, which was approaching Inchon Port, sustained holes in its third and fourth oil storage containers, emitting about 1,071 tons of Bunker C-oil, the officials said.

They said only 20 percent of the oil or about 200 tons has been removed from the area so far, and it will take a lot of time to complete the clean-up project.

Although the oil from the Korea Hope polluted an area within a radius of 20km covering Wolmi, Yongjong, Yongyu, Muui and Palmi Islands, the officials said, it has not spread to Yonghung and Chawol Islands, about 30km off Inchon.

The accident involving the Korea Sunnyhill and the Korea Hope, both belonging to Korea Tanker Co., came one day after an 89-ton fishing boat anchored at an Inchon pier sank Friday.

Last Thursday, the Panamanian-registered 5,031-ton freighter "Handcheong," and the 1,809-ton Korean tanker "Tongyang" collided in the sea off Taean, Chongchongnam-do.

But maritime officials said there were no oil slicks following the accident.

An official said that the upper part of the oil tanker was partly destroyed and the lower part of the freighter was damaged.

"I think there are no guidelines measuring pollution in the sea, but the accident is really nothing compared with that at Inchon," he said.

He said fishermen and fisheries authorities in Inchon were placed on emergency alert as the spilled oil killed shells, laver and other maritime products off the coast.

In addition, the oil slicks harm salt producers and pleasure boat-leasing businesses.

Residents Oppose Alleged Titanium Dioxide Plant Construction

SK2607080590 Seoul YONHAP in English 0745 GMT 26 Jul 90

[Text] Ulsan, South Korea, July 26 (OANA-YONHAP)—Residents of Ulju County in Southeastern South Korea are waging a vigorous campaign against construction of a titanium dioxide plant in their area.

Hankuk Titanium Co., which applied for a construction permit June 26, denies that the factory in the Onsan industrial complex will produce titanium dioxide.

A Hankuk spokesman says the plant will turn out oxidized steel, which is made with sulphuric acid and used for coating audio tapes. The firm has a titanium dioxide plant in Inchon.

County officials say they will deny permission if residents oppose construction.

The grass-roots campaign is spreading as a group opposed to the Hankuk plant has joined forces with another group protesting a bid by the U.S. chemical giant Du Pont to build a factory in the same industrial complex.

Du Pont, which won government approval to start joint-venture chemical production in late 1988 after a four-year struggle against public criticism, was targeted for attack when there were signs last November that construction was about to begin.

In a joint conference on the environmental impact of chemicals held by the two groups Wednesday, Chang Won, a professor at Seoul National University, warned against titanium dioxide plants.

"The soil and air will be severely contaminated with sulphuric acid, chlorine and chromium, which are by-products of the production of titanium dioxide," Chang said.

Han Song-yul, a 41-year-old resident of Ulju, said, "Onsan, which is already spotted with chemical plants, will be irrevocably poisoned when the titanium oxide plants move in."

Titanium dioxide, widely used in Korea to whiten paints, plastics and paper, is the focus of mounting environmental concern.

LAOS

Forests Along Borders Declared Protected Zones

90WN0204A Vientiane PASASON in Lao
30 May 90 p 2

[Report by Lakhanwansai]

[Text] Laos is a country with abundant mountains, forests and natural resources. And it borders five other countries.

The border areas Laos has with its neighbors are all densely forested and mountainous areas with many rivers and streams and many kinds of valuable wild animals. These forested areas along the border have been determined to make up a strategic defense for our nation and environment. Our party and state therefore must apply the measures which set aside certain areas as protective forests as these are important goals. These measures specify that:

1. Clearing for dry field rice and gardens is prohibited in the border forests within 10 to 12 km [of the border].
2. Haphazard forest burning is prohibited along the border.
3. Hunting is strictly prohibited in the border forests.
4. Haphazard, unplanned timber exploitation is prohibited along the border.

The extent of the forested areas along the borders with our various neighbors is as follows:

The forests along the Lao-Chinese border cover an area of about 6,204,000 km.

The goal is to set aside a forested area as protection along the Lao-Chinese border.

The forests along the border with Vietnam cover an area of 2,962,300 hectare. The goal is to set aside a forested area along the Lao-Vietnamese border.

The forests along the border with Cambodia cover an area of 138,000 hectare. The goal is to set aside a forested area as protection along the Lao-Cambodian border.

The forests along the border with Thailand cover an area of 1,030,500 hectare. The goal is to set aside a forested area as protection along the Lao-Thai border.

The forests along the border with Burma cover an area of 345,000 hectare. The goal is to set aside a forested area as protection for the border between Laos and Burma.

I would like to repeat that adopting the measures to set aside forested areas along the border for defensive purposes is strategically important because these areas will serve to protect the nation, its natural resources and the environment.

They will be a guarantee against losing the nation, its natural resources and the environment.

THAILAND

Deputy Minister Views Pollution Issues

90WN0177A Bangkok SIAM RAT in Thai
10 Jun 90 p 3

[Interview with Deputy Minister of Public Health Dr. Prasong Bunphong, date and place not given]

[Excerpts] [SIAM RAT] How dangerous is the problem of pollution now?

[Dr. Prasong] It is at a very dangerous stage. We test for those things for which the Ministry of Public Health is responsible. With regard to disease the department which is responsible is ordered to work until the problem is taken care of because we are afraid that such problems would be a danger to tourists who would bring the disease back to their country or to countries which are competing with us. At present the situation is improved, but the incidence of diarrhea is rising generally, especially in the hot season. This is because of pollutants in the rivers. We believe that these problems are indications that our environment has changed for the worse.

Another indication is the respiratory diseases coming to the state hospitals now both in Bangkok and the countryside. These are primarily allergies to dust, bronchitis,

and lung disease, and they make up the fourth cause of death. They are caused by dust, which is an indication of how dangerous pollution is.

And there is also poisoning from insecticides which we encounter constantly because farmers are competing very hard in production and use these chemicals without knowing what they are doing.

[SIAM RAT] What will we have to do to solve the problem?

[Dr. Prasong] If we are speaking about the basic causes, there are many areas where there must be change: 1. in the law, 2. in politics, 3. in coordination of administration.

Our environmental laws are faulty. We have many laws related to public health from 1941 when there was still no Ministry of Public Health and public health was administered by the Interior Ministry; these laws carry fairly mild penalties - the fines are 50 to 100 baht. We have industrial laws also. We have many laws, but they must be revised. They are rather out of date. Some categories need to be added such as the laws concerning poisonous chemicals and radiation. We do not have laws for these or for irritants. [passage omitted]

[SIAM RAT] When did we first discover the problem of the 48 polluted rivers?

[Dr. Prasong] I must compliment the Ministry of Public Health for the work it has done on the rivers. This is not praise for me as it was done before I joined. It began in 1966. Officials of the Department of Health, Division of Environmental Health, first had equipment then for testing water. There was no policy for this; at that time they worried that they would be criticised for getting involved in something they should not. People thought that the Ministry of Public Health just had duties related to operations and injections. Testing water puzzled them. In 1970 there was a resolution of the Council of Ministers giving the Department of Health the responsibility for testing water sources throughout the country. We set up various locations for testing the quality of 48 rivers throughout Thailand. We delegated the responsibility for this to those with experience in their regions, the provincial public health officials. They took their samples in the middle of the rivers not on the side where it might be very dirty. In this way we got average samples. We have done it this way for a long time.

[SIAM RAT] What is the cause of the pollution in our rivers?

[Dr. Prasong] There are human origins because we Thai like to live next to the water. Sometimes we have toilets, sometimes not, in any case it goes in the river. Whatever we throw away ends up in the river. That is the way we like to do it. [passage omitted]

There are industrial origins because factories are generally next to the water no matter whether they are food processing plants or cloth dyeing plants. [passage omitted]

It is caused by travel. We think of tourism only as bringing prosperity, but it also destroys the environment. When travel increases, there are restaurants and stores. It is these restaurants which are destructive. Travel destroys the atmosphere and environment in various ways, for example, it brings some investors to destroy the forests and other things. Nature belongs to all mankind. Whether we change it to be beautiful like nature or make something unnatural, if it is personal property, the environmental situation is changed. It thrives when it is commonly owned, but if a private resort is built, it is hurt. If it is used for personal gain such as a restaurant or a store then filth will be left and if it is not taken care of then the water will become polluted. This is generally how various pollutants get in the water.

[SIAM RAT] Which rivers are the most polluted?

[Dr. Prasong] They are dangerous throughout the country. They are dangerous in every way. 1. The rivers in the central region are the most dangerous. 2. Those in the East. 3. Those in the North. 4. Those in the Northeast.

5. Those in the South. But as public health officials and scientists we must examine them more closely. If we categorized them according to lead content and if lead content above 0.05 mg per liter exceeded the standard, the following rivers would be the worst: 1. the Pasak River, 2. the Pattani River, 3. the Chanthaburi River, 4. the Ping River, 5. the Mun River.

Those with the highest mercury levels, higher than the standard of 0.002 mg of mercury per liter, are as follows: 1. the Pranburi River, 2. the Tapi River, 3. the Chanthaburi River, 4. the Wang River, 5. the Mun River. People may not have heard about cadmium in Thailand because there are still no clear indications of disease caused by it, but there have been in Japan; the disease is called itai-itai, and it is caused by high cadmium levels. Its symptom is pain in the joints. High levels of cadmium are found in: 1. the Pranburi River, 2. the Tapi River, 3. the Trat River, 4. the Ping River, 5. the Chi River, 6. the Phangrat River.

As we know, another way to test the environment is to test for bacteria. There are high levels of bacteria in: 1. the Pranburi River, 2. the Pasak River, 3. the Chao-phraya River, 4. the Bangpakong River, 5. the MaeKlong River. The standard is 10,000 m.p.n. per 100 ml. Another problem concerns insecticides, which we test for and have found very high levels.

[SIAM RAT] What is the condition of the air now?

[Dr. Prasong] At present dust is a big problem both in Bangkok and the countryside. In Bangkok it comes primarily from traffic, and the average level is high. In the

countryside it is the factories and mines which cause the dust. Carbon monoxide also affects air quality. Vehicles produce a great deal of carbon monoxide. If the level of carbon monoxide is abnormally high, and it is breathed in, it will absorb oxygen from the blood and make a person deathly sick. It is caused by incomplete burning and in old motors. The problem is that we do not take proper care of our vehicles. We have millions of vehicles. I would like to ask those responsible if the vehicles are inspected thoroughly each year when their licenses are renewed. If a vehicle is not in good condition it can be dangerous.

[SIAM RAT] Which section of Bangkok is the most polluted?

[Dr. Prasong] If one is speaking of high levels of dust, levels exceeding the standard of 330 micrograms per cubic meter, that would include Pratunam, Yaowarat, Lanluang, Maensi, next to main streets, and at corners such as Latphrao, Samrong, and Chulalongkon. The carbon monoxide and the lead do not exceed the standard yet.

Impact of Salt Farms on Northeast Water Supplies

90WN0175 Bangkok DAILY NEWS in Thai 29 Apr 90
pp 1, 11, 12

[Excerpts] [passage omitted] Salt farming operations in several northeastern provinces have created serious problems for agricultural farmers, because those engaged in salt farming have released salty water into the rivers. Water from these rivers can't be used for agricultural purposes. [passage omitted]

A reporter reported that villagers in Ban Muang and Wanon Niwat districts in Sakon Nakhon Province are experiencing problems from the fact that salty water from salt farming operations is being released into the rivers and streams. They cannot carry on farming activities. Moreover, the tap water is salty, too, because of the carelessness of the salt farm financiers, who have allowed bitterns to be released into the Sang and Bo Daeng creeks. Both districts use water from these two creeks for agriculture. The rice seedlings there have all died. This has created problems for more than 50,000 people in forty villages. Large numbers of aquatic animals have died. The worst thing is that the soil in many places is depleted, which has caused major problems. There are fears that there may be clashes between the rice farmers and the salt farmers, who are backed by financiers.

On 28 April, after conducting a survey, a reporter in Sakon Nakhon Province reported that the water in the Sang Creek is so salty that the water can be boiled away to obtain the salt. The tap water used by the people in Ban Muang District is so salty that they have not been able to use it for the past two months. People have complained to provincial officials to no avail. The province's response has been that there is no law against these activities.

Mr. Prasat Chim-asa, a member of the Ban Muang District Public Health Committee, said that every year at this time, farmers who live in villages along the Sang and Bo Daeng creeks begin to prepare their fields for planting. But this year, they have not been able to do this, because the water from these two creeks can't be used. Many fish have died. [passage omitted]

A reporter who went and talked with Mr. Thanom Channuwong, the governor of Sakon Nakhon Province, was told that there have been reports that officials aren't doing anything about this. [passage omitted] But if officials catch anyone violating the law, they will be fined. And if they continue breaking the law, they may be forced to cease operations. A meeting was held to tell salt farmers who are working 3,000 rai that they can't do anything that will harm the environment and that they can't release bitterns into the rivers.

As for the problem of salty tap water, district officials have been ordered to look for other water sources. He said that it should be possible to solve the tap water problem. As for ordering the salt farmers to halt their operations, that probably isn't possible, because there is no law that would prohibit that. As everyone knows, salt mining is an honest occupation. [passage omitted]

The reporter reported that most of the salt flats that are causing problems are backed by influential financiers. Some of the companies are owned by former provincial council members and former MPs. And in some cases, politicians at the ministerial level are providing support. Thus, government officials don't dare do anything about this. They are well aware of what will happen if they interfere. [passage omitted]

Dr. Kasem Kasemsattayakon, the director of the Ban Muang Hospital in Ban Muang District, Sakon Nakhon Province, said that the hospital is experiencing a crisis, because the tap water is very salty and can't be used. The hospital has to use rain water for consumption. If we have a drought, the hospital will have to obtain water from other districts. [passage omitted]

In Udorn Thani Province, a DAILY NEWS reporter traveled to Ban Non Sa, groups 4 and 12, Na Muang Subdistrict, Kum Phawapi District. The 600 families in the two villages have to use water from just one well, which is located near the Ban Phonsa School. [passage omitted]

Mr. Suthin Khammiphakdi, age 34, who lives at 50 Group 12, Ban Nonsa, said that about 600 families live in the two villages. Each family has to use this well, and everyone has to line up for water. During the rainy season, the villagers use rain water. Around November, they have to start using water from natural sources. There are the Chiang Khlua and Nong Rua creeks, but neither of these creeks has enough water to satisfy the need during the dry season. Villagers finally managed to get government units to dig three additional wells, but problems were encountered each time. The water was salty and could be used only to water and bathe the cattle

and buffaloes. During the last dry season, officials dug this well. That was a very dry period. Officials had to truck in water. And a fresh-water well was dug. Everyone came to the "heaven well." Since then, during the dry season, there is always a line at the well from 0400 hours to 2200-2300 hours. But if it rains, people will stop coming until the next dry season. [passage omitted]

Tha Chin River Pollution, Control Measures Discussed

42000094 Bangkok THE NATION in English 12 Jun 90
p 25

[Article by Nantiya Tangwisuttijit. The Tha Chin river, its waters once clear and pure, has been poisoned by the unthinking release of untreated waste water. A recent seminar offered some solutions.]

[Excerpts] The Tha Chin will soon be a river of death, stated a representative of the alarmed Nakhon Pathom health and environment authorities.

Due to a mushrooming of industrial plants along its banks in Nakhon Pathom's Sam Phran District over the last few years, waste water has regularly been released untreated into the Tha Chin River.

Forecasts indicate that if the problem is further neglected, within this present decade the water will be that badly polluted that not only the aquatic life, but also people and the surrounding flora and fauna would be killed by deadly diseases, heavy metals and other contaminated substances in the water, warned the health official.

This worry surfaced, and quickly came to the fore, at last week's seminar on the role of private investors in environmental protection, held at Mahidol University's Environmental and Resources Studies Faculty's Nakhon Pathom campus.

It was the first time that operators of industries which cause negative environmental impact, numbering almost 100 individual concerns on this occasion, were invited to acknowledge their positions and lend their hands to solving the problem. More than half of them were owners of textile cleaning and dyeing factories, the source of much of the waste water contaminating the Tha Chin River.

Degradation of water quality in the river is now a major concern for Sam Phran residents. Over 70 percent of whom are owners of small fruit and orchid orchards, dependent on water from the Tha Chin not just for daily household use but for their livelihoods as well.

"I just couldn't imagine water from the Tha Chin River as not being able to be drunk or even used for agricultural purposes before I experienced it last year," commented Lung Thongyoo Noinard, chairman of the Sampran Klong Chinda Subdistrict farmers' group.

"My fruit trees and orchids were all destroyed because I didn't realize that the river water I was pouring on them was polluted."

Not only Thongyoo, but many other farmers in the area also suffered similarly. The longtime farmer added that he felt it was the untreated waste water released by the textile cleaning and dying factory of the Leewiwat Company, located on the edge of the Tha Chin River just north of the villagers' farmlands, that had polluted the riverwater. [passage omitted]

"Water quality of the Tha Chin River is between fourth and fifth grade—which means the water is not safe for drinking and thus cannot produce tap water," said Somphol Chooklinhom, head of Nakhon Pathom's Health Office.

The Ministry of Health rates water quality in five grades based on the purity of the water. First grade is the purest water with no contaminants or pollution at all.

"Results of water quality testing, conducted every three months by Nakhon Pathom health officials, show that the riverwater in some areas is currently unfit for use in daily life. I'm afraid that in the near future the Tha Chin River will be unable to be used for anything other than a communication route," commented Somphol.

Prasong Pongpitak, the head industrial officer of Nakhon Pathom province, revealed that although industrial factories are obliged to establish water treatment systems in their plants according to Department of Industrial Works' regulations, most of them do not actually use the equipment. Rather than pay the charges for electricity to operate the machinery, they still release untreated waste water from their plants into the river.

"They will operate the treatment systems only when I go to examine their plants. Normally, they just release waste water into the river at night," he said.

Whenever complaints are made about the problem, the factory owners usually claim that electricity charges are too high for them to afford, adds Prasong.

"I pay several thousand baht daily for the electricity to run the water treatment system alone. And I just paid over a million baht for a new water treatment machine for my plant," said Sirichai Sripolpaew of the Boonchai Industry Company, a giant textile cleaning and dying plant in Sam Phran District.

Although Sirichai said he was willing to pay these costs, even if he feels that they are somewhat excessive, to answer his obligations to society as a businessman, many others in his position do not have the same attitude.

"It's quite frightening to realize that of the 400 industrial plants along the Tha Chin River in Sam Phran, only one or two percent operate their water treatment machines while the rest of them still act as though there is no problem," said Prasong. [passage omitted]

Plans for a long-term solution for the Tha Chin River have also been made by the Ministry of Industry, said Prasong. A new regulation confining all new industrial plants in Nakhon Pathom to the Banglen Industrial Estate recently came into force.

"In the estate, infrastructures including waste water treatment and garbage disposal plants as well as other systems to clean the environment are centralized. Factories cannot avoid treating their industrial waste," he continued.

At the same time, existing plants will be watched more strictly by industrial works' officials, who will also, and perhaps more importantly, keep the operators aware of the degradation of the river and surrounding environment.

"Additionally, I'll continue to inform them that they would lose more than the cost of cleaning the environment if their factories are closed because they do not follow the rules. Closing a factory for even a few months only would cause much financial loss," said Prasong. [passage omitted]

A study conducted last year by the Science, Technology and Energy Ministry discovered that 75 percent of the pollutants in the Tha Chin River come from farmlands, households, fresh produce markets, restaurants and hotels, he said. [passage omitted]

VIETNAM

Radio Notes Continuance of Forest Destruction

BK2507095990 Hanoi Domestic Service in Vietnamese
1430 GMT 24 Jul 90

[Text] According to preliminary statistics, during the first six months of this year as much as 10,000 hectares of forests have been destroyed by fire, man or insects. The 284 reported fires alone have damaged 4,900 hectares of forests of precious timber.

Meanwhile, the indiscriminate exploitation of forests continues to be serious. Many organizations and individuals have felled trees with precious timber for export or for illegal sale in the country. A number of state-run units such as the Song Hieu Union of Agro-Forestry Enterprises, have failed to impose the ban on forest access and have illegally exploited thousands of cubic meters of timber from forest reserves.

Although various localities have actively investigated and dealt with some cases of trespassing, their efficiency in this respect remains low. Meanwhile, due to the slow progress of organizing on-the-spot forest control, the failure to inspect forests before and after exploitation, and the issuance of exploitation permits that are incompatible with the ability of the forest to sustain itself, forest resources continue to decline.

INTRABLOC

Bulgaria, Romania Hold Preliminary Ecological Talks in Ruse

*AU1407184990 Sofia BTA in English 1737 GMT
17 Jul 90*

["Bulgaro-Romanian Expert Talks Start on Monday"—BTA headline]

[Text] Ruse, July 14 (BTA)—In implementation of the intergovernmental Bulgaro-Romanian protocol signed earlier this month, the sides agreed on Bulgarian experts visiting the Chemical Works at Giurgiu [Romania] on July 16. By the weekend the sides will exchange information about any production capacity in both towns.

At preliminary talks in Ruse [Bulgaria], the two working groups have agreed to end by August 20 the expert examination of the facilities and submit proposals and recommendations before the Governments of Bulgaria and Romania. If agreement is not reached the materials will be submitted to an independent international commission of experts for the settlement of the ecological problem. The Romanian side has again said that the epichlorohydrine installation, the main air pollutant in the area, has been stopped and will not be restarted as long as the expert examination lasts.

Bulgarians Block Danube Bridge To Protest Romanian Pollution

*AU1607200690 Sofia BTA in English 1928 GMT
16 Jul 90*

[Text] Ruse, July 16 (BTA)—This evening the Civil Courage Movement blocked the traffic along the Danube Bridge from 19:00 to 21:00 hrs. This action was carried out in protest against the continuing gas-poisoning of Ruse by the Giurgiu [Romania] Chemical Plant.

In the meantime a Bulgaro-Romanian commission of experts began its work in Giurgiu. The Bulgarian delegation visited the three production units of the Giurgiu plant and established that no equipment worked there. The epichlorohydrine installation which until recently poisoned the air in Ruse had been stopped, but the vulcacit workshop worked until July 14 and it was the source of the latest gas-poisoning of Ruse.

Today it was also established that the construction of the installations in site 3 had been stopped at the end of last year. By July 20 the two groups in the joint commission will exchange technical and economic documentation related to the Giurgiu Combined Works and at the beginning of next year an inspection by experts will be carried out at the enterprises in Ruse at Romania's request.

Bulgaria's Lukanov Proposes New Pollution Meeting to Roman

*AU1807192790 Sofia BTA in English 1808 GMT
18 Jul 90*

[Text] Sofia, July 18 (BTA)—The latest emission of harmful chemicals, which affected the city of Ruse on the Danube from the Chemical Combined Works near Giurgiu on the Romanian bank, gave the Bulgarian prime minister, Mr. Andrey Lukanov, an occasion to talk on the telephone today with the Romanian head of government, Mr. Petre Roman, and to offer him a meeting after the competition [as received] of the bilateral expert examination in Giurgiu and Ruse.

In its main newscast this evening the Bulgarian Television reported the telephone conversation, and Mr. Andrey Lukanov said that the bilateral commission of experts, working on the premises of the Romanian chemical combined works in keeping with a recently signed protocol on the elimination of the pollution centres, has been unable to identify the source of the emission.

The Bulgarian prime minister said that a number of polluting installations in Giurgiu have already been shut down.

He also said that in compliance with previous agreement, if the two sides fail to identify the exact polluters, they will seek assistance from an international expert commission and that the European Community has consented to the formation of such a commission.

Romanian-Bulgarian Communique on Environmental Protection

*AU1907071990 Bucharest ROMPRES in English
0616 GMT 19 Jul 90*

["Ecology: Communique of the Joint Romanian-Bulgarian Governmental Expert Commission on Environmental Protection"—ROMPRES headline]

[text] Bucharest ROMPRES 19/7/1990—A joint governmental expert commission met in Giurgiu on 16 and 17 July to analyse the protection of the environment in the Romanian-Bulgarian border area, in agreement with a protocol signed by the two countries in Bucharest on 4 July.

Pollution in the Giurgiu-Rose area was discussed. The Bulgarian and Romanian experts saw round departments I, II and III of the Giurgiu Chemical Combine. Since Thursday, 12 July, all plants of the Giurgiu Chemical Combine have been out of operation in view of a general inspection, the Romanian side said.

The Bulgarian side acknowledged on 16 and 17 July that all plants of departments I and II were not working, as well as the visited plants of department III. The Romanian side will work out a timetable for the start of the equipment of departments II and III after their technical

inspection is completed. The joint Romanian- Bulgarian commission will inspect the plant when it starts operating according to the timetable.

Measurements will be made by the two sides in their territory while the plants are out of action to identify other sources of pollution.

At the same time, problems raised by the operation of the nuclear power plant at Kozloduy and the location of the Belene Nuclear Station, which is under construction, were considered by the joint expert commission. A timetable was set for visits and technical talks at the Kozloduy and Belene stations.

The commission will carry on its activity as was planned.

Bulgarian Parliament Adopts Ecological 'Appeal' to Romania

*AU2607160990 Sofia Domestic Service in Bulgarian
1422 GMT 26 Jul 90*

["Appeal to the Parliament of Romania" in connection with the ecological situation in Ruse adopted by Grand National Assembly at 26 July session in Sofia—live]

[Text] Esteemed colleagues, for several years we have witnessed, and some of us have even suffered, under the severely deteriorating ecological atmosphere along the border between our two countries.

This situation is caused by numerous industrial projects which were built and are operating in contradiction to the generally accepted international norms of ecological safety.

The situation is particularly grave in the town of Ruse, which has 200,000 inhabitants, and which as of 1982 was systematically polluted by chlorine, or by chlorine compounds produced in the Giurgiu Chemical Combine.

The permanent air pollution provoked a feeling of despair and hopelessness among the population, increased the social tension in Ruse, and caused a lasting and justified mass public discontent.

The frequent cases of illness with severe clinical symptoms and intensifying chronic diseases which affect the population of Ruse are an increasing cause of concern. The most vulnerable and most frequently affected patients are the children.

It is true that, following 1988, the production of chlorine was discontinued on site No. 1 of the Giurgiu combine, but regardless of this, the production of compounds containing chlorine continues, which results in a periodic deterioration of air pollution in the town of Ruse.

The present political situation in our two countries evokes new hopes that such problems can be resolved. The talks between Andrey Lukanov and Petre Roman, the prime ministers of our two countries, held on 4 July

1990 in Bucharest, the bilateral participation of parliamentarians and representatives of ecological movements from both countries in the talks, and the decisions adopted during the aforementioned negotiations, are evaluated as a positive step forward by our Bulgarian public.

The joint experts' commissions which were appointed have prepared ecological evaluations on some installations and are expected to submit their conclusions to the two governments, which are then expected to adopt respective decisions.

Successful overcoming of the ecological problems between our two states is a necessary prerequisite for the solution of complicated economic and social questions which can be achieved only with a broad public support.

Other countries in Western and Central Europe are setting good examples of cooperation by adopting joint measures for the purity of common air territories and water basins. It is high time that we also set an example of fruitful cooperation in the field of environmental protection based on the Vienna agreements of the CSCE Conference. It is necessary to join our efforts also in protecting the ecological purity of the Danube and the Black Sea.

The Seventh Grand National Assembly states that it devotes particular care and attention to the ecological problems emerging between our two countries, and that it treats this issue with a great sense of responsibility. We call for the following measures:

1. We urge the immediate shutdown of the facilities and production in the Giurgiu plant which cause pollution of the environment exceeding the internationally established norms. May the further fate of these facilities be decided upon on the basis of joint experts commissions' opinions which should involve the cooperation of international organizations. The facilities should be eliminated altogether if this should become necessary.

2. On the basis of the aforementioned experts' opinion, the potential and still operating major polluting facilities situated along the entire border between our two countries, or in its vicinity, such as those situated in the Vidin, Svishtov, Nikopol, Silistra, and [name of place indistinct] areas should be discontinued.

3. An international convention likely to include a system of permanent control over the state of the environment and which should provide for a mechanism aimed at the final solution of ecological problems emerging between our two countries.

We categorically declare that no considerations whatsoever should prevail over the interests of our citizens' health and life. We appeal to you, the members of the Romanian parliament, urging you to support our efforts so that we may jointly create optimal living conditions in our two countries and safeguard our children's health.

BULGARIA

Rumors of Black Sea Coast Contamination Unfounded

AU1907183290 Sofia BTA in English 1552 GMT
19 Jul 90

["No Radioactive Contamination of Black Sea Coast"—BTA headline]

[Text] Sofia, July 19 (BTA)—The fears of a radioactive contamination of the Black Sea Coast are unfounded, according to Mr. Valentin Bosevski, deputy minister of the environment, and Prof. Ivan Uzunov, head of a dosimetry and radiological protection laboratory.

Radiation monitoring, including the analyses of samples of the seawater, the sand, fish and mussels, conducted at the beginning of the summer, did not show any deviations from natural radiation levels. The readings do not differ from the background levels for the 1974-1984 period (before the Chernobyl accident). The content of strontium 90 and cesium 137 and 134 in the seawater is insignificant, and the activity of the natural nuclides uranium, radium, thorium and potassium is low.

The only exception is the Bay of Vromos, to the west of the village of Chernomorets, where the years of discharge of flotation waste from the Burgas copper orefield has caused a local radioactive contamination. Here the content of radium 226 is about 2.6 times higher than that in drinking water, and the gamma background level of the beach is six to seven times higher than the natural level of background radiation. Warning signs have been placed in the area.

Prof. Uzunov pointed out that thanks to the huge dissolving capacities of the ecosystem, seawater is perhaps the safest environment with respect to radiation. The lack of other local sources of radioactive contamination (apart from the Burgas orefield) gives grounds for optimism.

IAEA Deputy Director Inspects Bulgarian Reactors

AU2007205790 Sofia BTA in English 1939 GMT
20 Jul 90

[Text] Sofia, July 20 (BTA)—Mr. Maurice Rosain, deputy director general of the International Atomic Energy Agency (IAEA), paid a visit here. He said that the IAEA had sent a group of experts to Bulgaria to familiarize themselves with the problems of the Kozloduy Nuclear Power Plant and the construction of the Belene Nuclear Power Plant. They will see for themselves if the platforms are enough safe for exploitation and will check their seismic safety.

In October another group of IAEA experts will inspect the new reactors in Kozloduy and check every aspect of their exploitation from the management to the ability of the nuclear power plant operators to do their work, from

the reliability of the radiation protection to the measures to be taken in case of an accident.

Today Mr. Rosain had a meeting with Mr. Chudomir Aleksandrov, deputy chairman of the Council of Ministers.

CZECHOSLOVAKIA

Balancing of Ecology and Economics Viewed

90WN0169B Prague ZEMEDEL'SKE NOVINY in
Czech 13 Jun 90 p 7

[Article by Hana Hanzlova: "The Ecology and Economics Are Demanding Their Due—Greater Attention and Support for the Forecasting and Warning Service"]

[Text] For purposes of maintaining a healthy environment and lowering the cost of protecting plants against weeds, disease, and pests, a significant contribution can be made by the forecasting and warning service, made available to our growers by the plant physicians from the Directorate for the Protection of Plants at the Central Control and Testing Institute of Agriculture. Even though this service is gradually being perfected, it is still far from being on such a good level as is the case in developed West European countries where considerable attention has been paid for a long number of years to researching the forecasting and warning service pertaining to these harmful agents.

In this direction, our research has certain gaps, as we were informed at the Institute of Plant Production in Prague-Ruzyně by Eng. Jan Dirlbek, Doctor of Sciences, and Eng. Lubomir Vechet, candidate of sciences, from the Department of Forecasting and Warning.

We Will No Longer Get By With Classical Methods

"From ecological and economic viewpoints, it is necessary, in the protection of plants, to prescribe precise doses of specifically effective preparations based not only upon the developmental phase of the crop in question, but also on moisture and temperature conditions and on other conditions so as to support the effectiveness of the chemical and, at the same time, to limit the risk of the occurrence of residues in plant products, in the water, and in the soil," explained Eng. L. Vechet, candidate of sciences. "For this purpose, however, simple traditional means are not adequate. And at present, classical methods continue to predominate here, methods which, in forecasting, are suitable only in 12 cases and in warning in 31 cases of a total of more than 210 harmful agents against which protective measures are taken."

The Goal Is Expert Systems

In other words, this means a change in the tactics in directing plant production and doing so on the basis of methods based on the latest scientific findings in this country and abroad and upon findings worked out with

the aid of computers. Among others, an attractive example is the Dutch model EIPRE, utilized in Western Europe to forecast and warn against stalk breakage, seed head droop, rust, and mites in wheat. "We began mathematical modeling in this country virtually 20 years later than the rest of the world," complained Eng J. Dirlbek, Doctor of Sciences, "we have some catching up to do. We have methods reflecting the current status of science and technology worked out only for four or five harmful agents and, at that, the utilization of these methods in practice is still only on a local level. We are now striving to get our model for forecasting and warning against grass droop into an expert system capable of replacing a key specialist by a computer. To the extent to which this will be successful for us with additional specialists, then this system should provide qualified answers in agricultural enterprises to all questions required for the correct management of protection of crops against this feared fungus disease which spreads each year."

How To Get in Step With the Rest of the World?

In the opinion not only of the Ruzyne researchers, but also of specialists at the Advanced School of Agriculture in Prague and at other institutes and institutions, the research, organization, and utilization of forecasting and warning services requires far more attention and support than has been the case thus far. It is only under these conditions that it can fulfill its social mission which is not only to prevent losses in the output of cultivated crops and disruptions with respect to their quality, but also to protect the environment. How then can one organize a quick remedy and who should participate in it? "Everyone, from the highest government organs to the grower," both researchers stressed jointly. "Otherwise, we shall continue to encounter a shortage of employees and necessary technical equipment—for the purchase of which neither foreign exchange, quality materials, nor a solid producer have been found thus far in cases where instruments, developed in this country, are concerned. We are aware of the fact that much needs also to be done to augment the knowledge of people who share in the protective responsibilities for crops. We are, in fact, convincing ourselves that their degree of specialization is not completely at the required level and we therefore recommend the organization of numerous seminars, courses, and even the introduction of a specialized subject, entitled 'Forecasting and Warning' at agricultural schools. Broad possibilities which have, thus far, been little utilized are also seen in the teletext system, in communications media as well as color advertising materials. We can also not get by without better coordination among scientific disciplines dealing with the protection of plants. Connected very closely with all of this is a more effective, less expensive, and perfected plant protection service, based on new methods, irrespective of whether they are developed in this country or acquired from abroad."

Government Reviews Ecology Issues

LD1807181590 Prague CTK in English 1701 GMT
18 Jul 90

[Excerpt] Prague July 18 (CTK)—the Czech Government discussed at its session here today a draft concept of ecological policy of which especially the economic side is being criticized as thousands of millions of crowns are necessary for ecology annually, but there are no means for covering the needs.

Czech Minister for the Environment Bedrich Moldan said that federal as well as national institutions will have now to focus on tackling this key question.

As regards the international pledge to lower the emissions of sulphur dioxide, Mr. Moldan said that the emissions are being reduced stage by stage. For instance, the production of power in North Bohemia at the extent of 700 to 800 mgw will be halted, which will help reduce sulphur dioxide by five percent. [passage omitted]

Nuclear Power Plant Problems Noted

AU2107182090 Vienna Domestic Service in German
1000 GMT 20 Jul 90

[Fritz Pesata report]

[Text] Jiri Beranek, head of the CSFR Nuclear Commission, was right when, in several interviews, he described the two oldest reactors of the Bohunice Nuclear Power Plant literally as the weakest link in the CSFR nuclear energy chain. However, one must also critically assess the security standards of the reactors of the second generation at Dukovany, as well as the reactors at Mochovce, which are still unfinished or have not yet been put into operation, and the four reactor blocks at Temelin, which can currently only be recognized by the outlines of the growing cooling towers.

Let us take the case of Dukovany, which is about 30 km to the southwest of Brno, has three units of the second generation of the Soviet WWER-440 reactor, and went into the grid between 1985 and 1986; the State Nuclear Commission has expressed the following—not exactly flattering—opinion, quote:

The state inspectors regarded as significant incidents the low intensity of natural circulation of the cooling water in the primary circuit while the third block was shut down to exchange the fuel rods, and the emergency shutdown of the second block, in which the rotary motion of the turbine was so high that the protective system to prevent over-acceleration was put on. For this, the key for the emergency shutdown of the turbine was not adequate. At the same time the computer information system's data were lost. End of quote.

Another example of the unpublished CSFR nuclear report is on the four blocks of Mochovce. Here the inspectors frankly state, quote:

The investor did not know what was supplied and how the supply was stored. With regard to Mochovce it was

also stated that the technological documentation was incomplete and that there was an incongruity between the data in the computer and reality. It was also noted that several supplies were implemented without assuring that the required quality guarantees were observed beforehand. Yet the most serious problem of Mochovce seems to be the automatic control system, which is permanently being developed, and whose elements were not examined under conditions that correspond—at least in part—to the real conditions.

In other words, this means that at the moment the new control technology is being examined in Kiev together with Soviet engineers. Should it turn out that this new technology does not work, one would have to get hold of substitute Western technology. However, in that case it will not be possible to put Mochovce into the electricity grid in two years time, as planned. Moreover, bad feelings and resistance are now emerging in Hungary against this nuclear power plant close to the border—not least because now there are even plans to set up a nuclear waste disposal site near Mochovce.

Finally there are the projected four blocks of Temelin in southern Bohemia. Unlike Bohunice, Dukovany, and Mochovce, Temelin is to be equipped with WWER-1,000 reactors. The positive thing about this is that this reactor type has a so-called containment chamber, that is to say, a security shell. On the other hand, the report by the CSFR Nuclear Commission states literally, quote:

Experiences from such blocks that are in operation in the USSR and in Bulgaria confirm that their operation is difficult to control and thus, most unstable. End of quote.

New Incidents at Bohunice Nuclear Plant Reported

AU2307205590 Hamburg DER SPIEGEL in German
23 Jul 90 pp 112-116

[Unattributed Report: "No Premiums Without Megawatts"]

[Excerpts] Slovenliness, low safety standards as a consequence of poor technology, and continuous accidents are nothing out of the ordinary in the CSFR nuclear power plants: Internal reports of the Prague Nuclear Commission have shown that the oversized CSFR nuclear energy program is becoming a severe test for the young democracy. [passage omitted]

Frightening conditions have above all been reported from Jaslovske Bohunice. Only 60 km northeast of Vienna, two major catastrophes almost took place at the Bohunice plant in the seventies.

In spring 1976, the "A 1" reactor, a gas-cooled prototype which was developed in the CSFR, was on the verge of a melt down. Under full pressure, the lid of the fuel canal

came off; the fuel cassette was ejected, hitting and killing one worker, while two others suffocated due to the hot gas. A major nuclear disaster like Chernobyl was prevented only thanks to the bold effort of a worker, who provisionally closed the open canal by means of a reloading machine a few minutes later.

Twelve months afterwards, the staff ignored the temperature reported from the reactor core; several fuel elements melted through, all pumping and canal systems were damaged or exposed to radiation.

The site of the power plant and the subsoil continue to be polluted as a consequence of these accidents and the incorrect storage of radioactive refuse. According to reports by members of the local control authority in the special journal, NUCLEONICS WEEK, they found up to 24,000 becquerel from tritium per liter, and more than two million becquerel from cesium per one kilogram earth in the soil around the plant—ten times as much as the maximum admissible value per square meter in the FRG.

Right next to the closed hazardous reactor, two "V 1" and "V 2" blocks with two pressurized water reactors from the early days of East European nuclear technology are still in operation.

The "V 1" block, which is the same design as those in the GDR plant at Greifswald, which have now been closed and are described as extremely risky, is the "weakest link in the CSFR nuclear power chain." [passage omitted]

A report intended for the government explains that because of "the limited possibilities for technological control, it is not possible to establish the material damage, which makes it impossible to estimate the remaining life span." A spokesman of the Nuclear Commission has stated that presumably the boilers of the "V 1" have become as brittle as those of the Greifswald reactors. Ilse Tweer, a specialist for the testing of material from Hannover, who also examined the boilers at Greifswald, warned by saying that if this were the case, "then an emergency, even caused by little leaks, might cause a disaster."

The materials test expert has noted that the embrittled steel threatens to break at the very moment at which the danger of the greatest conceivable accident occurs at a reactor—that is, when the emergency cooling system is put on, during which the temperature in the boiler is brought down suddenly through cold water.

These defects appear to be even more precarious against the background of experiences gained in the normal operations of the "V 1," which were recorded by the Nuclear Commission in its annual reports of the last two years:

—In seven of the twelve pipe sockets of the pressure vessel in block 1 and at six sockets in block 2, during

the annual inspection the staff discovered deep cracks which it simply "repaired through grinding and welding."

—At various instances, and in line with the principle "no bonuses without megawatts" (as one of the staff in the nuclear power plant put it), the staff of the plant turned off the automatic emergency shutdown system so that the plant would not shut off, despite the fact that various components had broken down.

—At two occasions, in May and July 1989, the cables of one of the main circulating pumps in block 2 melted down; however the reactor was operated with the remaining pumps for weeks and nobody ever looked for the true reasons of the short circuit. [passage omitted]

Nuclear Safety Chairman Interviewed on Bohunice
AU2407125790 Prague SVOBODNE SLOVO in Czech
21 Jul 90 pp 1, 3

[Interview with Karel Wagner, chairman of the Czechoslovak Atomic Energy Commission, by Martin Fuk; date and place not given: "Will We Halt Bohunice?"]

[Text] The V-1 nuclear power plant at Jaslovske Bohunice has recently become the object of another Austrian press campaign against our nuclear program. It developed as a result of an article in the Slovak newspaper NOVE SLOVO [New Word] in which Engineer J. Beranek, an employee of the Czechoslovak Atomic Energy Commission, spoke about the V-1 nuclear power plant. We asked Engineer Karel Wagner, chairman of the Czechoslovak Atomic Energy Commission, for his point of view on the campaign.

[Wagner] First of all, I want to stress that it is, to say the least, very strange that Engineer Beranek's article was published on 14 June and that the Austrian press began its outcry only a month later. The article contained generally known and technically correct data that described some incidents which, even at the time of publication, were unsubstantiated.

[SVOBODNE SLOVO] Does this mean that safety at the V-1 plant has increased?

[Wagner] The plant's blocks were put into operation in 1978 and 1980. We neither concealed their technical level nor the risk. However, nuclear safety requirements at that time were at a much lower level throughout the world than they are today. As they gradually increased, several measures were implemented in the V-1—for example, by breaking down the peripheral fuel panels, the amount of neutron radiation in the reactor's pressure vessel was reduced, additional diagnostic equipment from the FRG was installed, and our own equipment which increased capacity in searching for defects in the primary ducts was also installed. Moreover, along with the USSR, the GDR, and Bulgaria—the states operating this first generation reactor—we have adopted a set of 16

fundamental measures which will bring the level of nuclear safety into line with current requirements. These measures will be implemented before 1992.

[SVOBODNE SLOVO] We have encountered speculation about a recent large emission of radioactivity caused, apparently, by sabotage. Could you tell us something about this?

[Wagner] I can only deny this speculation. Minor incidents, which do not cross the plant's threshold, take place in each nuclear power plant. Such events are monitored by the Czechoslovak Atomic Energy Commission and are regularly made public. Such instances are far fewer at the V-1 than at our other nuclear power plants. This is because this plant has the lowest level of nuclear safety of all our nuclear power plants and is therefore monitored and controlled very closely.

[SVOBODNE SLOVO] The V-1, then, is not in a parlous condition?

[Wagner] No. It is capable of operation and is not immediately endangering anyone. The risk of an accident has been further reduced by the measures that have been introduced; however, the public's perception of this risk has altered much more significantly—its unwillingness to put up with the risk, however small, has increased.

[SVOBODNE SLOVO] Will you recommend halting production at the V-1 plant if the Austrian Government really demands it?

[Wagner] Of course, we do not envisage that the V-1 will remain in operation for the entire period of its projected viability, but we will not halt production tomorrow, for instance. The state inspector has demanded the drafting of a new safety report for the end of the third quarter. At the beginning of October, an International Atomic Energy Agency commission will be set up to investigate safety issues at the V-1. After all the conclusions have been evaluated, a decision will be made on the plant's future operation, reconstruction, or suspension. However, the decision will be made on the basis of a thorough scientific analysis and on the basis of absolute responsibility for the population's safety; it will not be made on the basis of a distorted and incompetent press campaign.

Bohunice Director Discusses Plant's Safety

AU2407134090 Bratislava NARODNA OBRODA in
Slovak 21 Jul 90 p 1

[Text] Jaslovske Bohunice, CTK—Adolf Krstenik, director of the Jaslovske Bohunice Nuclear Power Plant, emphasized in an interview with CTK reporters that the V-1 blocks are the oldest in our country, but that even older ones are still in operation within CEMA. We are also aware of the fact that they do not reach the same safety standard as the majority of blocks in advanced countries or the new blocks being constructed in our country. Thus, the Austrian activists' points of view are

nothing new to us. We do not underestimate the issue of safety guarantees for the V-1's operation. We have prepared a program to increase safety by adopting diagnostic, anti-seismic, technological, and anti-fire measures from the well known Siemens Company. We are also making use of an offer from an International Atomic Energy Agency team in Vienna to conduct a comprehensive inquiry into safety. On the basis of these independent points of view, a decision can be made on the blocks' fundamental reconstruction or on halting their viability.

Control Ministry Official on Soviet Troop Damage

*AU2607162190 Prague PRACE in Czech 25 Jul 90
pp 1, 3*

[Interview with Colonel Frantisek Vasica, director of a CSFR Ministry of Control department, by a "(KJK)"-signed reporter; date and place not given: "The Interim Bill—1,423 Billion Korunas"]

[Text] How much the 22-year-long stay by the Central Group of Soviet Forces in Czechoslovakia has really cost us is a question which, de facto, no one will ever answer precisely. However, the damage caused by the Soviet troops in the areas where they were stationed is measurable, if only partially. We asked Colonel Frantisek Vasica, director of a CSFR Ministry of Control department, for more information on this subject.

[Vasica] During the first stage of the inquiry, a list was compiled of the damage in the areas occupied by Soviet units in Mimon, Mlada Libava, and Lez. Let me make it clear, these are not the places where all the Soviet units were deployed. Our inquiry teams worked in these areas alongside hydrological research teams, staff from the forestry administrations, and officials from the state conservation offices in the individual districts. The inquiry revealed that the Soviet forces' long-term residence and activity in these areas caused, on the one hand, considerable pollution to underground waters and, on the other hand, damage to woodlands; illegal construction was carried out here at variance with Czechoslovak legal regulations and no care was provided for cultural monuments.

[PRACE] Could you be more specific about the damage?

[Vasica] As far as pollution of underground and surface waters and soil contamination is concerned, the experts from the hydrological units estimate—on the basis of their inquiry—that approximately one billion korunas will be needed to eradicate this damage. To a certain extent, this sum is "final." It is not envisaged that it will be increased because the actual decontamination work has already started. Damage to the forests has also been "wrapped up." This was caused, first and foremost, by target practice using real ammunition. The estimate of damage in this case amounts to 135 million korunas.

[PRACE] What about the damage to our cultural monuments?

[Vasica] The Soviet Army had at its disposal 11 of the 86 cultural monuments which had been handed over to the Czechoslovak Army at the beginning of the 1950's. Along with the appropriate conservation organs, we carried out an investigation at all of them; we discovered that every one of them had been seriously damaged. We are talking about the old Komarno Fortress where a sum of approximately 100 million korunas has been earmarked for the renewal of this national cultural monument. We are also talking about Decin Castle; the sum estimated for the repair of this monument is approximately 70 million korunas. Repair work at the former St. Anna and St. James Churches, places of pilgrimage in the Libava area, is estimated at 60 million korunas. It will cost approximately 30 million korunas to repair the castle at Kurivoj and further millions will be swallowed up in repairing damage to Zdechovice Castle, the Jicin and Bohosudov Monasteries, and other cultural buildings.... Overall, we are talking about a sum of 288 million korunas.

[PRACE] These are, of course, expert estimates. How will....

[Vasica] According to a CSFR Government decree, this data will be submitted to the Federal Ministry of Finance for discussion at bilateral negotiations between the Czechoslovak and Soviet sides on settling these damages.

[PRACE] Has our ministry's work come to an end then?

[Vasica] ...no. We will continue. During the second stage of the inquiry, damage to communications, buildings, and so on will be estimated. We will finish our work next year after the definitive withdrawal of the Central Group of Soviet Forces from the CSFR.

[PRACE] Will the Soviet side also take part in the investigations?

[Vasica] During the first phase, only representatives from the appropriate Soviet units were present; we had been given their permission to enter the above-mentioned military areas. Later, when it became clear that the damage is extensive, the Soviet side invited its specialists in water management and other spheres to the investigations and the problems began to be resolved.... However, I do not mean to say by this that the Soviet side has approved the above-mentioned aggregate sum of 1.443 billion korunas. Now, during the course of the bilateral negotiations, we will in fact see how much we will be given....

Polychlorinated Biphenyl Threat, Solutions Discussed

*90WN0169A Prague ZEMEDELSKE NOVINY
(supplement) in Czech 13 Jun 90 p 4*

[Article by Eng Ctibor Perlin, candidate of sciences, Research Institute of the Fats Industry, Prague: "The Threat Caused by Polychlorinated Biphenyls and Its Solution"]

[Text] Our chemical industry has been producing polychlorinated biphenyls (PCB's) since the 1930's. Consequently, these substances have found broad application in a number of areas: as heat-carrying media, as a component in hydraulic fluids, as fillings for condensers, as parts of coating materials for surface protection of metal structures. All over the world, PCB's have been used for virtually 50 years without any kind of restriction. Over these years, the overall production of PCB's is estimated at several million tons on a worldwide scale.

Hygienists began to panic when, at the end of the 1960's, PCB's were found in mother's milk as a new foreign substance. Their studies demonstrated that PCB's are harmful to the human organism. PCB poisoning is manifested by the pigmentation of the skin, by acne, by liver or kidney damage, and by the incidence of tumors. The danger of PCB's is that they are very stable and, biologically, virtually nondegradable.

PCB's entered the environment as a result of the actions of man. In the beginning, the main source of PCB's in foodstuffs was considered to be coating materials used in livestock production, whence PCB's could have entered the feed, primarily with respect to cattle (ensilage pits), and thence into milk and beef. However, a high incidence of PCB's in game animals indicated that the sources of PCB's are elsewhere. Contamination can be the result of PCB materials escaping through leaking joints of hydraulic systems of agricultural and other machinery and as a result of the incomplete combustion of waste materials containing PCB's. It has been shown that in order to eliminate PCB's by combustion, it is necessary to achieve temperatures of around 1,450° C and the PCB-containing material must remain within the fire zone at least for two seconds. These conditions

were not adhered to and thus elimination of PCB's by combustion was not achieved, but, on the contrary, a dangerous contaminant was disseminated into the environment. This resulted in the contamination of the air, of groundwater, of waterways, and of the soil. Although PCB's are only soluble in fats, they do settle in sludge in watery environments, they are absorbed by various algae, by various water plants and their residues. It is in this form that they enter the organism of water creatures and the entire food chain.

For every known harmful substance which contaminates foodstuffs, there is a stipulated quantity which man can consume without suffering any damage to health. The World Health Organization designates these limits with the acronym ADI, which stands for the permissible daily dose. For the most part, this value is expressed in terms of the quantity per kilogram of consumer weight. For PCB's, the ADI value was set at one µg/kg of consumer weight. This means that an average consumer weighing 75 kg may consume a daily maximum of 75 µg of PCB's without suffering health damage over his entire life.

On the basis of these ADI values, hygienists stipulate permissible limits for the content of harmful agents in foodstuffs. To be able to determine the degree of threat to the population posed by the intake of foodstuffs contaminated by PCB's, it is, therefore, necessary to know the content of this substance in foodstuffs and to be familiar with the overall consumption of these foodstuffs. It should be stressed that, thanks to the characteristics of PCB's, at-risk foodstuffs are only those containing fat where the PCB's accumulate.

The principal source of PCB's in the CSFR and the contribution of these sources to the overall intake is listed in the table below.

Foodstuff	Annual Consumption, kg per capita	Fat, %	Annual Consumption, g	Daily Consumption, g	PCB Content, mg/kg	Average Daily Intake of PCB, g per capita
Milk and milk products, liters	253.4	3.96	10,034	27.5	0.350	9.6
Butter	8.6	81.1	6,975	19.1	0.350	6.7
Lard	7.0	84.9	5,943	16.3	0.198	3.2
Pork	46.8	27.4	12,823	35.1	0.198	7.0
Beef	27.3	6.2	1,693	4.6	0.201	0.9
Total						27.4

Data on PCB content was provided by Prof. Wolf; the fat content of milk is derived from its average values upon purchase; PCB values for meat are given by PCB content in the fat and tallow.

Another source can be eggs, where the total daily intake in consuming one egg per day can rise by 0.4 µg. Plant oils of domestic origin virtually contain no PCB's.

It thus appears that the danger of poisoning is acute only in cases where average values are seriously exceeded. That is also why PCB's in foodstuffs and particularly in

milk and butter are monitored and why foodstuffs containing excessive amounts are excluded from consumption.

Solving the elimination of PCB's from the food chain is a long-term proposition. It requires that sources be eliminated and that this be done exclusively through combustion at prescribed temperatures. This is a program which is economically demanding and requires a longer time frame to accomplish.

Primarily, it is necessary to eliminate contaminated livestock from herds and from the production of milk.

The milk must be processed separately into butter. The butter can then be completely eliminated or decontaminated according to a newly worked-out technology developed by the Research Institute of the Fats Industry branch at Usti nad Labem.

The newly proposed technology makes it possible to concentrate contaminants into a small volume of approximately 5-10 percent of the original content and the obtained decontaminated product can be used as a food industry additive. However, this is financially demanding, but less so than the mere combustion of all of the butter. The difference in the expenditures in estimating production at one ton of contaminated butter per day are running at about Kcs 15 million per year in favor of the technology of decontamination.

The state, represented by the hygienic and veterinary service, which approved the use of PCB's in industry, shared in spreading this contaminant into the environment. Agricultural producers are thus already bearing a part of the economic impact, because this contaminated raw material does not correspond to existing norms and thus represents a loss to the producer not caused by him. A solution in the form of burning concentrated contaminated components on the one hand lowers the overall losses of raw material, but on the other hand limits the volume of such materials. Every processing, however, results in additional costs. It is necessary to find a solution as to who will pay these costs. Neither the producer of the raw material nor its processor can be expected to do so, particularly under the new economic conditions. It will thus be a matter for state agricultural and foodstuffs policy as to which variant will be embarked upon. Both represent a loss, but decontamination technology expressly lowers such losses. However, it is necessary to reinvest part of these funds into processing the obtained raw material in such a way that this more expensive raw material could be utilized at all as an additive for pricing reasons. We are opposed to unjustified subsidies for production, but the new technology unconditionally minimizes the subsidies necessary to eliminate health risks. And, moreover, they tend to gradually eliminate this contaminant from the environment.

Joint Venture Set Up To Reprocess Coal Sludge

AU2407153990 Prague HOSPODARSKE NOVINY in Czech 19 Jul 90 p 8

["CTK, ru"-signed report: "Billions Out of Mud"]

[Text] The West German Hoelter Company and the directorate of the Ostrava-Karvina Mines have signed the founders' contract for a joint enterprise called HOE-LOK. It will build near Darkov, Karvina District, a new plant for the separation of waste rock from fuel out of coal sludge.

In the many years of coal mining in the Ostrava area, between 20 and 30 million tonnes of waste from coal

preparation plants and coal washing plants have accumulated in sludge pits. Until recently, this so-called sludge has been used only rarely, namely as fuel for central heating.

Most of the fuel produced by the joint enterprise will be sold abroad, at 85 German marks per tonne. The reprocessing of a mere 10 million tonnes of sludge will bring a profit of 850 million German marks. Another contribution of the plant will be the disappearance of the malodorous sludge pits from the coal mines' surroundings, in the place of which shrubs, trees, and flowers will be planted.

New Fibers Exhibit Environment-Protective Potential

90P60019p East Berlin TECHNISCHE GEMEINSCHAFT in German May 90 p 22

[Summary] A collaborative effort among various Czechoslovak enterprises has resulted in the production of new chemical fibers exhibiting increased surface area when compared with conventional fibers having a circular cross-section. In some cases, the new fibers have a Y- or C-shaped cross-section, hollow interiors and can remove oily substances from polluted water. One kilogram of such sorbent fibers is capable of removing one to two kilograms of oil from water. Another advantageous feature of the new materials is their moisture-repellency. When immersed in oil-polluted water, the fibers take up only the oil; the water drips off of them.

GERMAN DEMOCRATIC REPUBLIC

Rostock Conference Finds Need for Baltic Waste-Treatment Facilities

90WN0142A Munich SUEDEUTSCHE ZEITUNG in German 30 Mar 90 p 12

[Article by Albrecht Hinze: "The Beach Resort Guests Are All Gone, The Last Fish is Dead"; First National Baltic Sea Environmental Protection Conference in Rostock]

[Text] In the next few years the GDR plans to build new or reequip 25 waste treatment plants at a cost of M 2 billion.

"Now even the last fish is dead in Little Jasmund Bodden on the island of Ruegen." The socialist newspaper NEUES DEUTSCHLAND used such a dramatic outcry from East Berlin to depict the environmental destruction at the back end of the elongated bay which cuts into the chalky island from the north out of the Baltic Sea. The extensive death of the fish in what are really idyllic fishing waters took place at the beginning of May and is by no means the first portent pointing to the ecologically grave condition of the Baltic Sea which is virtually an inland sea. On several occasions in the past few years environmental catastrophes here have been identified although they were kept secret—that was the

way things were in the real-socialist GDR which shunned openness. Since the Bodden fishermen of the area then had had to roll up their nets, they are, of course, to be recompensed, now beach resort guests even in the Great Jasmund Bodden, which is situated in front of the Little Jasmund Bodden, are no longer allowed in the water.

Because of its growth in mass, which is not at all so surprising, the poisonous and killer alga *prymnesium parvum* has contaminated the water of the bay which has a low replacement rate, so that neither man nor animal endure it any longer. The extensive death of the fish—300 tons of dead pike and perch, roach, bream, and marbled carp had to be buried in hastily dug waste dumps—came as the result of recent excess oxygenation. For its part the eutrophication was caused by the almost totally untreated sewage which is released into the Bodden from the city of Bergen and other villages in the region on Ruegen; the early summer warm weather provided an additional reason. Environmental disasters of this kind could happen at any time at any place along the East-German Baltic Sea coast, but primarily in the Boddens which have a low rate of water exchange and which are connected to the open sea only by narrow outlets; such was the repeated warning last weekend at the GDR's first National Baltic Sea Environmental Protection Conference in Rostock.

On the one hand, the GDR can boast of being the one among seven Baltic Sea riparian countries to contribute the least to polluting the sea's brackish water. Of course, because of its 340 km of coastline it also has only the smallest share of the total of approximately 9,000 km of coast which surround the Baltic Sea. And the 2.1 million people who live in the GDR catchment area likewise account for only a fraction of the 71 million people in the entire Baltic Sea catchment area. Moreover, the GDR considers itself to be somewhat nice. The figures which were presented in Rostock do not include the kinds of pollution which flow toward the Baltic Sea via the Oder which at its mouth is conveniently Polish and via the Kattegat indirectly from the FRG's part of the Baltic Sea.

The official statistics show that the GDR has only a 1.5-percent involvement in the total polluting of the Baltic Sea which annually amounts to 77,000 tons of phosphor and an estimated 1 million tons of nitrogen. Every year 1,440 tons of phosphor and 1,710 tons of nitrogen, plus 44,000 tons of easily degradable organic substances flow in there. In addition, there are barely degradable heavy metals such as mercury, cadmium, lead, and zinc.

As everywhere else, in the GDR as well, the main environmental sinners are industry and agriculture, the cities and villages reaching far into the interior, shipping and not least also tourism which has a destructive impact on the countryside and infrastructure. All this is in addition to the general warming of the Baltic Sea, which has occurred in recent years, and to the half-generation long absence of influxes of water from the North Sea.

Along the East German Baltic Sea four-fifths of the sewage from the communities which flows into the sea from the catchment area is simply treated mechanically, if at all. Only 17 percent also goes through biological cleaning. Mainly the waste treatment plants of all the larger cities such as Rostock, Stralsund and Greifswald have only a mechanical, but not even a biological stage, to say nothing of facilities for further removal of nutrients.

According to figures cited by Winfried Pickart of East Berlin, under secretary for the environment, only 57 percent of the restoration of waste treatment facilities, which was originally planned for the five years between 1986 and 1990, actually took place. Investments of M 400 million were not realized—the result of faulty planning and lacking construction capacities. Now, in the next few years, at a cost of M 2 billion the GDR intends to build 25 new waste treatment plants and retrofit others—provided that the economic and fiscal situation permit, given the currency union with the FRG. In any case Pickart is confident that the GDR will be able to meet its commitment from the 1987 Baltic Sea declaration of the riparian countries, namely, between 1990 and 1995 to be able to cut in half the total pollution coming from its territory.

This pollution also includes the notorious overtaking of agricultural soils from dumping liquid cattle manure, which in practical terms has nothing more to do with fertilizing, but is almost exclusively concerned with the extremely important removal of waste which is extremely harmful to the environment. This comes as a result of an agricultural policy which amounts to industrializing agriculture by separating animal and crop production. This is now finally to be reversed. Because the GDR was isolated for decades from foreign countries and GDR citizens were thus forbidden to travel abroad, the GDR's inland areas, where it is beautiful and attractive, have been "touristified" beyond all measure—in particular not least along the Baltic Sea. Year after year 3.5 million vacationers as well as 10 million daytime guests have of late sought recreation here. Water and beach, dunes and dikes, coastal cliffs, gourmet food, infrastructure, sanitary waste disposal are accordingly overtaxed. Now, of course, GDR citizens may travel across the borders, but a new stream of tourists with totally new requirements is anxiously awaited this summer—the sailboaters and surfers, camper vans, and campers from the West. At the Rostock environment conference environmentalists strongly urged prompt realization of the Council of Ministers resolutions to create national parks and natural wild-life preserves—from the Fischland-Darss-Zingst peninsula as far as the island of Ruegen and the Greifswald Bodden, where by the way the Lubmin nuclear power plant is contributing to the warming. Whether "soft tourism," on which great hopes are being pinned everywhere, can be realized remains to be seen.

For example, the state-owned fertilizer factory at Poppendorf near Rostock, which produces nitrochalk, is one

of the industrial environmental polluters which are repeatedly mentioned in the area—in spite of, to be sure, great efforts on its part. Not only the fact that at that time, at the beginning of the 1980's the factory cost M 3.5 billion (including 1 billion in foreign exchange), the entire village of Bussewitz and all its people had to make way to it—for reasons of ecology and infrastructure, according to what was said. Presumably the wind here blows mostly from a harmless direction. The Creuzot-Loire factory-building enterprise, which soon after even went bust and could no longer be sued, obviously saw itself as unable to take the required environmental precautions. A few months after the factory was put into operation, which was, to be sure, delayed, the water processing plant exploded, the loss amounted to M 400 million in the one and one-half years required for the repairs.

Even in the succeeding years during which additional losses took place, large fines had to be paid because environmental conditions were violated. In 1987, for example, this amounted to M 5.5 million, this year it will no doubt still be M 50,000. Of course until now this did not need to bother director Siegmund Seidel. In any case he had to turn over 100 percent of the enterprise's profit to the state which, in rubbing its eyes, thus deceived itself. Yet, the maximum values for draining, say, nitrogen into the Peetz stream which flows into the Baltic Sea are in the meantime almost being observed: Only 148 kg are put in each day, that is, of course, 26 kg more than is permitted. Thus, the enterprise is almost clean, in any case substantially cleaner than other fertilizer factories, for example those in Bitterfeld.

Economists, scientists and environmentalists at the Rostock conference appeared to be "stunned" by the condition of the Baltic Sea. In an open letter, which was like a plea for help, to the governments of the FRG and the GDR as well as to the Land governments of Schleswig-Holstein and what is to be Mecklenburg-Vorpommern they demanded substantially intensified efforts to avert the dangers for the Baltic Sea. Under secretary Pickart also spoke of essential "enormous efforts." In his ministry a new task force is first being established in order to coordinate environmental protection measures for the Baltic Sea.

Ex-Deputy Environment Minister Comments on Recent Dismissal

90WN0163A East Berlin BERLINER ZEITUNG in German 30 May 90 p 3

[Interview with former Deputy Environment Minister Prof. Dr. Michael Succow by Lutz Schnedelbach; place and date not given: "Professionally Competent But Politically Undesirable"—first paragraph is BERLINER ZEITUNG introduction]

[Text] A few days ago, an upheaval in the Ministry for the Environment caused excitement. Prof. Michael

Succow (FDP [Free Democratic Party]), an internationally respected environmental protector who was deputy minister up until a few weeks ago, left the ministry. Now many ask themselves if environmental protection in the GDR has been buried. We visited the 49-year-old biologist in his apartment in Eberswalde and talked with him.

[Schnedelbach] Your service in the ministry is over. Mr Succow, what do you live on now?

[Succow] As always, on work. Although 15 May was my last day in the ministry, I have plenty of work. After my departure I received many offers. I am in the process of considering which one to accept.

[Schnedelbach] What kind of offers were among them?

[Succow] The large environmental associations in the GDR demand me as chairman. I have agreed to take on the management of the German Association of Nature Conservation. There were also job offers from internationally renowned endowments dealing with financing and servicing special environmental projects. The Academy of Sciences wants my support in building up an institute for system ecology. I have already accepted a guest professorship for applied ecology at the West Berlin Technical University.

[Schnedelbach] Your former Institute for Soil Research in Eberswalde will wait for you in vain?

[Succow] Yes. I believe that our present time does not permit withdrawal into science, particularly in environmental protection. In this field I am particularly concerned with training young people in ecology on the one hand, and with making environmental policy on the other.

[Schnedelbach] So you intend to continue in politics?

[Succow] Naturally. For that, I shall in future make use of the appropriate associations and the state governments. I am concerned with an environmental policy which carries out long-term protection of nature and resources, which comprises our bases for life such as water and the countryside, and puts limits on rapid subdividing.

[Schnedelbach] But Environmental Minister Steinberg sees it differently.

[Succow] That is why we are so different. He is one of those individuals who now want to address restructuring of industry above all. That is good and necessary and will essentially be concluded by the year 2000 with the help of Western high technology. But there will be larger problems in the near future: to provide drinkable water, to shape a countryside where sensible farming can be implemented and healthy food can be produced. These problems cannot be compared to the restructuring of industry, because the stresses on water and above all the soils are enormously high. The best technologies alone cannot help there. What are needed are special nature

conservation concepts of which the environment minister does not think much, that was my impression. But perhaps the Bonn experts will help him to understand that. And then there is also the population which follows nature conservation with watchful interest. That is good, because an environment ministry can exist only when there is a consensus with the mass movements. Steinberg must take good care that he does not gamble away this advantage.

[Schnedelbach] You sound disappointed that you are no longer working in the environment ministry?

[Succow] Yes, I am very disappointed. In particular because I hoped to stay on after the successes under the Modrow government in order to continue to advance my field of work. I was not at all concerned about a political career. It was great that we were in a situation where the FRG and other European countries still lag far behind. For the first time, domestic and foreign environmental associations and organizations backed our ministry which formerly was greatly encumbered and was always in the crossfire of criticism. We had achieved that people believed us and saw that we wanted to build up something entirely new. That was also lost by Steinberg with his personnel policy.

[Schnedelbach] There are many rumors about your departure from the ministry. Some say that Steinberg offered you an attractive post but which did not suit your interests. Others say that you had your eye on the minister's job, and then there are some who claim that you were dismissed summarily. What really happened?

[Succow] The upheaval began with the 20th German Nature Conservation Day in Bad Reichenhall. At this mass rally with specialists from many countries, I was to give a major speech on the subject: The GDR's contribution to European nature conservation. The organizers had requested it, and there were no prior objections from the ministry. First, I traveled privately to Vienna, and there I received the telegram in which the minister informed me that I was not permitted to speak in Bad Reichenhall. Some other man, totally unknown in nature conservation circles, would have gone there to speak in my place. The organizers rejected that. The speech was cancelled. I traveled back to Berlin and after a week's wait, I finally got an appointment with the minister.

[Schnedelbach] He fired you?

[Succow] No, he was not that direct. He said that he had been told that I have great professional competence, but politically I do not fit in his government. Therefore, he could not give me a political post, but only the function of a subdepartment head. Even the office of department head is already a political one and therefore not feasible. Only head of a subdepartment.

[Schnedelbach] You did not want that?

[Succow] No. Not for career reasons, but rather because in this function one does not have the possibility of

dealing with other ministries. Nature conservation must be seen as something that also comprises the restructuring of agriculture and of land use. Nature conservation is not limited to reservations only. Many people must still be made aware of that today. Even those who are influential. But one cannot afford to do that as a subdepartment head. That is why I did not want that function. Steinberg did not want any other [for me]. So giving notice was then the only thing we both wanted. When he heard about that step, he was visibly relieved.

[Schnedelbach] With your giving notice, has nature conservation died in the environment ministry?

[Succow] I hope not. It would be a crime, above all because we had achieved much under the Modrow government. We knew that a new government would not permit that much freedom for decisionmaking. Nonetheless, in a very few weeks a program was created for the development of national and nature conservation parks which stands up to European standards. With this we are already able to fulfill the EC demand which provides that by the year 2000, 10 percent of the national area be converted into nature conservation areas. Our framework program must now be fleshed out with concrete resolutions which, for example, will prevent unguided building and wild tourism.

[Schnedelbach] Since your departure, who is in charge of the affairs of nature and resources protection?

[Succow] The one who formerly was in charge of environmental supervision and waste management. Fortunately, nature conservation specialists are working under him. Much time passed until it got to that point. Steinberg has had to correct his personnel policy only because of pressure from outside. At the time, I had requested 36 experts for this sphere of operations. I knew each one of them from my earlier time in the opposition in environmental associations. This number was too large for the minister. One-third that number was to suffice. Now 34 are employed, and only those which I had wanted at that time, and some that I already had. I hope that they can finish the program that we had jointly developed and that they further advance nature conservation. Then my work in the ministry would not have been in vain. Besides, times change quickly. Who knows what will be, a year hence.

Effects of Uranium Mining To Be Investigated

LD2307161790 East Berlin ADN International Service in German 1425 GMT 23 Jul 90

[Excerpts] Berlin (ADN)—The effects of uranium mining in the south of the GDR on the population and environment are at present being investigated. Main supporter of this research program is the State Office for Nuclear Safety and Radiation Protection (SAAS), its vice president, Prof. Dr. Walter Roehnsch, said at a press briefing today. Other partners are the SDAG Wismut, the Federal Office for Radiation Protection, and foreign institutions.

The investigations will not be confined to radiation effects. They also comprise medical investigations among the population affected, and a comprehensive survey of the quality of the air and groundwater. First results should be available at the end of this year. [passage omitted]

HUNGARY

Hazardous Waste Deposits Found

Bicske-Obarok

90CH0180A Budapest MAGYAR NEMZET in Hungarian 28 Apr 90 p 13

[MTI [Hungarian Telegraph Agency] report: "Several Tons of Hazardous Waste Were Found in Obarok; The Proprietor Contracted With an 'Unknown' Firm"]

[Text] The Mid-Transdanubian Directorate for Environmental and Water Protection is investigating a major case of environmental pollution in the environs of Bicske-Obarok. The case of pollution was called to the attention of authorities in charge of supervising communal lands by a member of the Bicske council, indicating that several hundred metal and plastic barrels (possibly filled with hazardous waste) and various bundles were stored on Gyorgy Bogyai's land in Obarok, strewn haphazardly at a location accessible to everyone.

Experts arriving at the scene were met by a shocking sight: There were barrels and jugs, filled with various substances, scattered randomly in an area about 100 square meters in size. Some of them were tipped over or broken open, and their contents were in puddles or piles on the ground.

Chemical analysis of the substances revealed that someone had stored great quantities of paint-acetone mixture, paint sediments, waste leather, dye-soaked textiles, galvanic sediments, and nickel-containing acidic waste in the area. Some of this hazardous waste certainly has its origins at the Tungram plant, while the rest found its way to the remote property from unknown origins. By the way, the owner of the plot said that he had contracted with an unknown firm, which he could not even name, for the use of 100 square meters of his land.

Gare-Bosta-Szalanta

90CH0180B Budapest MAGYAR NEMZET in Hungarian 24 Apr 90 p 4

[MTI [Hungarian Telegraph Agency] report: "Is It Cheaper To Evacuate Threatened Villages Than To Build an Incinerator Plant? Move To Stop Hazardous Waste Disposal in Baranya"]

[Text] At their Monday meeting, members of the Baranya County Council decided that, in view of the steadily worsening local environmental pollution, it is prohibited to bring any more hazardous waste into the

county (even for the purpose of neutralizing it) until existing conditions are improved to a significant degree. Similarly, no industrial facilities releasing environmentally harmful waste can be established within Baranya. At the same time, the council accepted a plan of action for the handling, neutralizing, or even utilizing of harmful waste produced within the county.

This firm resolution rose out of a protracted affair which has been disturbing local residents: the problem of the industrial waste disposal site located near the communities of Gare, Bosta, and Szalanta. Experts state that the site (used by the Pecs Leather Processing Factory, the Mobiusz Meat Processing Enterprise, and the Budapest Chemical Works) fails to meet both the modern requirements of environmental protection and public health as well as technological standards. Inhabitants of the neighboring villages are alarmed by the fact that hazardous waste material from the disposal site have been found in the soil, water, and plants at the edge of their communities.

Authorities have already called on the three enterprises mentioned above to eliminate the problems associated with this disposal site. The Pecs Leather Processing Factory and the Mobiusz Meat Processing Plant have completed their share of the rehabilitation, but the Budapest Chemical Works has failed to do so. In recent years, this enterprise located in the capital city has transported some 64,000 barrels of hazardous waste to Baranya County; the barrels have been damaged and hazardous waste has been released. The local council, rejecting the oral and written explanation given by the Budapest Chemical Works' managing director, called upon him to hasten implementation of measures prescribed by governmental organs for the protection of the environment, and to take immediate steps to neutralize both the polluted soil and the waste that has been illegally stored in the area for nearly ten years.

The meeting took a dramatic turn when the managing director of the Budapest Chemical Works announced that it would take a hundred million, perhaps even as much as a billion, forints to neutralize the volume of waste material stored at Gare. Building an incinerator would be so expensive that the Chemical Works would have to be sold and then, perhaps, such an environmental facility could be financed out of the proceeds. At this, a council member from the region involved suggested that the villages be emptied and the 2,000-3,000 local residents be resettled elsewhere, since this solution appears to be the cheapest, least dangerous, and easiest to implement.

Serious Lead Pollution Raises Concern in Budapest District

90CH0173A Budapest VILAG in Hungarian 5 Apr 90 pp 36-37

[Article by J.D.: "The Martyrs of Martyrs' Boulevard; Even a Printer Is Less Affected by Lead Than These Children Under the Age of Three"—first paragraph is VILAG introduction]

EAST EUROPE

[Text] Residents of Martyrs' Boulevard and the neighboring district recently observed a sad anniversary: It was exactly one year ago that a large-scale protest movement was initiated to call the authorities' attention to the intolerable air pollution level of the district. We discussed the failures of the past year with Agnes Nagy, head of the "Short-of-Air" Association for Environmental Protection.

What led to the demonstration was that, at the initiative of neighborhood residents, the National Public Health Institute (OKI) conducted a test at the Varsanyi Street nursery in District II. The findings were shocking: The quantity of lead found in the bodies of small children was twice as high, or even higher, than the level established for adults by occupational safety regulations, 6.0 micromoles DALA [Delta-Aminolevulinic Acid] per millimole.

The events of the following days are well known: Demonstration on Martyrs' Boulevard, with mothers and children wearing protective masks and walking among the automobiles to distribute their letter of protest to the drivers. The result: A few seedlings were planted in tubs along the Boulevard, and that seems to have taken care of everything. A few dedicated environmentalists, however, with Agnes Nagy among them, continue to tilt at windmills.

The authorities promised to repeat the spring tests during the summer, to find out how the summer vacation affects the children's bodies. That would have been an excellent basis for a comparison with earlier findings, if they had kept their promise to conduct new tests in September. However, the tests were only held, after numerous reminders, between 23 November and 18 December. The experts' opinion, which was perhaps even more shocking than the results of previous tests, was not made public until late January.

The occupation health laboratory of KOJAL conducted so-called delta-aminolevulinic-acid tests in five child-care facilities of District II; in a nursery, three kindergartens, and one grade school. During the tests the results were evaluated in accordance with regulations applicable to workers who are exposed to lead poisoning. (It should be added, however, that when it comes to pollution factors, the concentration of lead is merely the tip of the iceberg; after all, vehicles emit numerous other by-products of internal combustion that are harmful to the health, which were not even considered in these tests. The district lead-pollution level, which is ten times as high as the maximum allowable level, represents a serious caution, if we consider that lead is very toxic to the nervous system. It is especially threatening for the neurological development of children who, in view of the ten to fifteen years when they were exposed to this pollution, may regrettably face serious problems in their adult lives.

According to the expert opinion issued by KOJAL, more than three-quarters of the children in the already mentioned nursery on Varsanyi Street showed a lead concentration that is higher than the level considered permissible for adults. This means that even a printer is less affected by lead poisoning than these children who are less than three years old. In that facility, and in the kindergarten on Bem Square, they have not found one child whose test has showed normal readings. The situation was similar, perhaps slightly more favorable, at the kindergartens on Fo Road and Romer Floris Street: At both facilities they found lead pollution at an above average level, surpassing the upper limit by 46 and 30 percent respectively. Finally, perhaps the best results were found at the Medve Street grade schools where nine percent of the children revealed readings in excess of the permissible six micromole level, and the majority (79 percent) fell into the "acceptable" category.

In order to compare these results, the same tests were conducted among children of the same age in District XV. According to the data, while in the case of Martyrs Boulevard and its region the average readings were more than twice as high as the norm indicated by the World Health Organization, the same readings obtained in District XV remained below the international trend.

While KOJAL's expert opinion calls for urgent steps to be taken, in practice it appears to be impotent. Even though Decree No. 21/1966 states that if the level of pollution exceeds the upper limit, the institutions are required to implement suitable steps (such as limiting or detouring the traffic), thus far this has existed only on paper. KOJAL points to the local council, saying that in this district, which is considered to be an important tourist center, it is the council's task to make the decision.

In the meantime, parents are afraid to step out onto the street with their children. This is especially the case since an analysis has revealed that the little ones are most exposed to these threats, since they are the closest to the exhaust pipes of vehicles. Nor can we ignore the fact that they are also the ones who are exposed to the secondary pollution originating from the dust settled on the ground: Let us just consider the dust raised on the playgrounds, or the slow but steady lead poisoning resulting from the sucking of fingers.

Even though a sizeable segment of the 619 children examined thus far are already affected to the point that would have compelled employers to take urgent measures in the case of adult workers, in the case of the Martyrs' Boulevard and its region no responsible institution or person seems to exist. Or, as local wags seem to imply, such persons reside somewhat "higher up."

Residents of the district feel that there is a solution. It is not even very far off; after all, it is right about now that a building well-suited to become a nursery or a kindergarten, the Czinege villa which is located in a park, is becoming vacant. It would be difficult to find a better

edifice for the purpose. The problem of transporting the children could be solved if the council were to institute morning-and-afternoon kindergarten buses. It is also likely that some of the district's enterprises would support this action with a few buses, the costs of which could be deducted from their taxes as public interest contributions. Buildings liberated by closing kindergartens and nurseries in the area bordered by Martyrs' Boulevard, Csalogany Street, and the Danube embankment could be leased out or offered as compensation to the Ministry of Defense, which is being forced to evacuate the Czinege villa. Such a solution would not cost the local council, KOJAL, or the Ministry of Defense one penny.

The only argument that seems to speak against this solution is that such tax write-offs would take money away from the budget. However, the question that is more important is: to give up a not-very-large tax income, or to prevent having to spend serious amounts of state money on curing and rehabilitating children whose health is being damaged?

If this plan were put into practice, we would be one step closer to the solution. Of course, all of this is nothing more than a reaction to the symptoms. Drastically retarding the air pollution on Martyrs' Boulevard and its neighborhood calls for seriously considered urban policies. This is why the "Short-of-Air" Association for the Protection of the Environment sent a letter to the prime minister, calling for the urgent settling of the matter. (This "Open Letter" is published in our "Forum" column.) Whether the contents of that letter will have any effect or not, we may find out in another year.

POLAND

Science Academy Details Extent of Ecological Disaster

90WN0176A Bonn RHEINISCHER MERKUR/
CHRIST UND WELT in German 25 May 90 p 18

[Article by Bernhard Schulz: "Cracow People in Sulfur Rain—The Environment in Poland: New Studies in the Upper Silesian Coal Region Show That the Scope of the Disaster was Widely Underestimated"]

[Text] Until recently, in East Europe the term Progress and the prospect of a happy future were inseparable from the vision of large-scale industrial development. The symbols of this vision were the pictures of new factories with smokestacks as large as possible, and smiling representatives of the working class in the foreground. The officially decreed euphoria over urbanization and industrialization did not leave its trail in "socialist realism" art, however. Today, all these countries are on the verge of an ecological catastrophe, and people are busy today practicing the art of preventing the apocalypse at five minutes before midnight.

Poland is among the most environmentally damaged countries in Europe. The measure of the eco-catastrophe in the Land of Change is credibly and plainly portrayed

for the first time in a report by the Polish Academy of Science (PAN). The experts from PAN identified 27 areas in which the ecological balance is completely broken down. These regions equal 11 percent of the land area of Poland and are inhabited by more than one-third of the entire population. For a portion—about five percent of the country—the conditions are those of an "ecological catastrophe," and 6.2 million people live in this area.

The most severely affected is the Silesian coal region. Physicians have determined that, actually, all the residents here should be evacuated—which is three-quarters of the population of Silesia. The evacuation of 11 villages in the Legnica copper region in Lower Silesia shows that this is not just a dire description of the future.

In the meantime, these regions have also been investigated by representatives of the World Health Organization (WHO). They concluded that the population of the affected areas live an average of 10 years less than in other regions of Poland, and 26 years less than the residents of Sweden. In the Silesian coal region, the infant mortality rate is way above average, the rates of cancer, lung, and circulatory illnesses are 40 percent above normal levels. The results of the extreme sulfur dioxide emissions—in 1988 it was 4.9 million metric tons—are horrifying: experts estimate that 200,000 deaths annually are attributable to those emissions.

The extent of this catastrophe was not only denied for years, but also widely underestimated. The good old reputation of the health resorts on Sniezka and in the Klodzko valley in the eastern Sudetenland attracted Swedish firms interested in constructing sanatoriums. They were surprised by their own measurements: their monitoring equipment detected 1,260 times the allowable concentrations of pollutants in the air. The environmental destruction is clearly visible on the urban structures. In historic Cracow, the so-called masonry aging factor is 1,000 times higher than allowable standards—a greeting from the nearby "Lenin Foundry."

Granted, the neighboring states also contribute greatly to the air pollution—above all the GDR with its share of almost 10 percent of all pollutants which land in Poland. Six percent come from Czechoslovakia and about one percent comes from West Germany. Much of it is willingly created, too, because the neighbors simply shut off the expensive filtering systems when the winds are favorable, out of the need for "thriftiness." With the diversions into the rivers, this practice has already lead to the biological death of the Oder River.

The annual emission of pollutants in Poland (12 metric tons per square meter—almost 16 tons per square yard) beats all European records. If the pollutant precipitation were distributed over all Poland, it could create a 10 cm thick layer. According to ecologists' estimates, the pollutant dumping could double to about 9 million metric tons by the year 2000—the ecological disaster would then be absolute. Even today, the three largest dirt

catapults in Poland—the “Belchatov” and “Turow” power plants and the “Lenin Foundry”—alone deliver 1.6 million metric tons of the poisonous dust.

Of course, the economic results have become apparent in the meantime: the ground contamination by heavy metals has limited agricultural production. In the coal region, in the area around Cracow and in the Silesian copper basin, it is impossible to grow vegetables and grain due to health reasons. Among the 2,300 plant species, 400 are already threatened with dying out. By the mid-1990's, about half of the forest stock in this forest-rich Poland could be seriously ill. Some 12 percent of the wooded areas, primarily in the southern part of the country, are already substantially wiped out. It is 34 percent in the Cracow district, and on 85 percent of the area in the Silesian forests around Katowice, those forests have died out.

The ecological devastation does not leave the national parks alone, either, particularly in the southern part of the country. The concentrations of pollutants there exceed the threshold of allowable norms by three times. In the Upper Tatra mountains, in Swietokrzyski in the Giant Mountains, healthy firs and spruces have become rarities in the meantime. Then there is the impact of tourists. “Many national parks,” accuses a representative of the Greens [Environmental party] from Cracow, “are similar to a garbage dump.” Efforts to increase the size of the national parks to about one percent of the land area of the country may have little chance for success—so long as there are apparently different opinions in the administration on the necessity for landscape protection. And so the creation of the newest protected area—the “Masurian National Landscape Park” with the largest lake in Poland, Sniardwy Lake (about 10.5 square miles) and the extended Piska Meadow—became a blatant scandal. Despite environmentalists' protests, foreign investors are building a luxury hotel with a yacht harbor for around 300 million dollars on an island in the middle of the newly created national park.

The salt waters are also strongly affected. Each day, industry directs 5.7 million pounds of nitrogen, 340,000 pounds of phosphorus, 660,000 pounds of chlorine compounds and 880 pounds of arsenic into the Baltic. Swimming has been prohibited in the Gdansk harbor for over 10 years. It is no wonder, because the Gdansk harbor is a cheap dump. In 1989, ships releasing trapped old oil were fined about 55,000 zloty—this equals a contribution of about six dollars.

The PAN ecological experts judge that “the waterways of Poland are in terminal condition.” Between 40 and 80 percent of industrial and municipal wastewater is fed directly into the waterways. Warsaw is the only European capital without a water treatment plant. According to scientists' estimates, Poland needs at least 8,000 water treatment plants—today, there are only 380 in operation, and many of them are outdated. It is no wonder that biological life has died out in one-third of the rivers. Only four percent of the rivers and 1.5 percent of the lakes are still clean today.

The investigation by the Polish Academy of Science is considered reliable by representatives of the environmental movement. This is despite the fact that much of the data which comes from industry itself must be critically evaluated. Also in their analysis of the Polish expenditures for environmental protection, the PAN experts stand on data from the national statistical office. According to that data, expenditures for environmental protection rose from 0.3 percent to 0.8 percent between 1980 and 1987 of the gross national product. The actual sums expended are considerably lower, however. In two-thirds of the districts, less than half of the available funds were invested in environmental protection, and in many parts of the country it was less than 10 percent. This is blamed on the Polish economic crisis. The agencies could not spend their allocations because the necessary equipment was not available on the market.

Above all, the experts from PAN criticize the bureaucratic structure of the Ministry for the Environment. It criticizes the staff shortages in state inspectors assigned to environmental protection. It is estimated the needs there are 20 times greater.

The times are gone when the environmentalists' demands were classified as “subversive activities.” Though now, just when it could become active, it is apparent that the Polish eco-movement is splintered. Over 100 organizations are competing for predominance—and environmental protection remains far off once again.

Environmental Protest in Czorsztyn

*LD1607184190 Warsaw Domestic Service in Polish
1800 GMT 16 Jul 90*

[Text] About 70 young people who arrived from various regions of Poland are conducting a protest action in Czorsztyn. They are protesting against the construction of the dam on the Dunajec River. This action, under the slogan “Tama Tamie” [“A Dam to the Dam”] has been organized by the Freedom and Peace Movement from Krakow.

INTER-AMERICAN AFFAIRS

Chile's Aylwin Sees Industrialized Countries as Main Polluters

PY1407160690 Santiago Domestic Service in Spanish
1100 GMT 14 Jul 90

[Text] At the closing ceremony of the first meeting of Latin American and Caribbean experts on the environment—which was held at the Diego Portales Building—President Patricio Aylwin pointed out that industrialized countries are responsible for the most harm to the environment.

Without overlooking our responsibility to prevent and reduce overall environmental problems, we must admit that these problems are largely the result of activities in the industrialized countries, Aylwin said.

He mentioned high energy consumption in industrialized countries and the energy production systems that they use. He also said the industrialized countries produce gases that destroy the ozone layer.

President Aylwin said that most of the expenses for environmental cleanup must be paid by these countries. Only thus can they ensure survival of the species, of humanity.

The meeting was attended by National Assets Minister Luis Alvarado, delegates of international organizations, representatives of Latin American and Caribbean countries.

Brazilian, Venezuelan Presidents Sign Joint Ecology Declaration

PY2107003790 Brasilia Domestic Service in Portuguese
2200 GMT 20 Jul 90

[Text] Brazil and Venezuela will work together to prevent the depredation of the Amazon forest. In a joint declaration released at the end of the meeting held today in the Venezuelan town of Santa Elena, Presidents Fernando Collor de Mello and Carlos Andres Perez ratified their governments' intention to give priority attention to the defense of the Amazon environment, which they see as patrimony of the regional states. They also stressed the importance given by their countries to the Amazon Cooperation Treaty, the provisions of which represent full guarantees of the exclusive right and responsibility of their presidents over the conservation and rational exploitation of regional natural resources.

They also stressed the importance of activities of the Special Commission for the Defense of the Environment, and the programs for protecting ecology, the economy, and biological diversity.

The two presidents also decided to insist on the implementation of integrated programs for border cooperation, dealing with health, transport, communications,

education, sanitation, and protection of the environment, among other areas. For this purpose, they decided to create the Brazilian-Venezuelan Commission for Border Cooperation, which will meet for the first time during the second half of 1990.

President Collor expressed his satisfaction to President Perez over the conclusion of the highway that will link the common border with the Venezuelan highway system. President Collor reiterated the priority attention his government gives to the construction of the BR-174 highway between Boa Vista and the BV-8 border marker.

Collor and Perez met at the BV-8 border marker before visiting the Brazilian Army Platoon at Vila de Pacaraima, where they held the first working meeting. They then crossed the border and dedicated the highway that links the BV-8 border marker with Caracas.

They then went to the Venezuelan Government guest house in Santa Elena where they had lunch and held another meeting. Present at the meeting for Brazil were Foreign Minister Francisco Rezek, Justice Minister Bernardo Cabral, Army Minister Carlos Tinoco, and Presidential Secretary General Marcos Coimbra. For Venezuela, Foreign Minister Reinaldo Figueredo, and Bolivar State Governor (Andres Velazquez) attended the meeting.

ARGENTINA

Saadi Denounces Presence of Nuclear Dump in Catamarca

PY1107164190 Buenos Aires TELAM in Spanish
0142 GMT 11 Jul 90

[Text] Resistencia, 10 Jul (TELAM)—Deputy Luis Saadi (PJ [Justicialist Party]-Catamarca province), has reported the existence of a "nuclear waste dump" in Catamarca Province. He also said that the United Kingdom and the last military government, which admitted its existence, are responsible for this.

Saadi made this statement at Presidencia Roque Saenz Pena, 170 km from Resistencia, which he and his brother, Ramon Saadi, were visiting. During a radio interview, Luis Saadi said the nuclear waste dump is in Antofagasta de la Sierra, on the Galan volcano, or Galan Hill.

Saadi said that in the area: "There have been deaths caused by toxic wastes. There are people dying of skin cancer, bone and bone marrow cancer, all of which are characteristic of radioactive areas."

Deputy Saadi said he will submit evidence and documents to congress. He added: "It will be an international blow because our country is being poisoned."

Train With 7 Cars of Radioactive Material Derails*PY1907185890 Buenos Aires Domestic Service in Spanish 1600 GMT 19 Jul 90*

[Relay from Santa Fe by Juan Domingo Demonte]

[Text] An unusual accident has occurred here, which has caught our immediate attention largely due to the effect it could have on health because radioactive material is involved.

According to information we gathered this morning and to a charge made by a radio listener, some cars of a train derailed near the northern town of San Justo, Santa Fe Province, specifically near the town of Rincon del Quebracho beyond the Salado River. The train was made up of 27 cars—20 of the cars were loaded with soybean and the rest carried radioactive material.

According to investigations conducted by our information service, the train came from Bolivia and was heading for the Buenos Aires city of Ensenada. The San Justo police have confirmed the report released by Radio Nacional from Santa Fe, and have said that the case was placed under the jurisdiction of the Santa Fe Federal Court. This morning we tried to communicate with Judge (La Fontana), who will hear the case, because the federal judge had no information. We also tried unsuccessfully to communicate with the traffic superintendent for Belgrano Railway, which was involved in the accident.

There is fear that the radioactive material has spread in the area of the accident, taking into account that police are guarding the sector. The police probably do not have the appropriate equipment for the situation.

[Begin recording] [First Reporter] Do you have specific information on the type of radioactive material carried by the seven cars?

[Second Reporter] The police could not give any information on the type of material.

[First Reporter] It might be uranium, taking into account the fact that the train came from Bolivia. What is also important is the fact that the material could have contaminated the soybean. There must have been several hundreds of tons of soybean considering that the train had 20 cars loaded with it.

[Second Reporter] We have learned that this material has been transported on other occasions and that there was another accident near the town of Sauce Viejo, near Santa Fe Province. The field where the accident occurred was completely destroyed.

[First Reporter] Can you tell us if the accident occurred very close to the northern town of San Justo, or in an isolated area?

[Second Reporter] It occurred in an isolated area, not far from the city of San Justo.

[First Reporter] We will try to contact the National Atomic Energy Commission to learn about what type of radioactive material was involved and what possible danger it might pose to people and food. [end recording]

BRAZIL**Suit Demands Construction of Radioactive Waste Site***PY1707174190 Rio de Janeiro Rede Globo Television in Portuguese 1600 GMT 17 Jul 90*

[Text] The General Attorney has filed a civil suit against the Nuclear Energy Council of the federal government and the state of Goias to demand that a storage facility for radioactive waste be built within a definite period of time. Three years after the accident involving radioactive cesium, the waste is still stored in a temporary site, without appropriate security conditions. In the suit, the federal government is charged with neglect of its duty.

CHILE**Official Reports Incidence of Acid Rain Around Santiago***PY1407125890 Santiago Domestic Service in Spanish 2300 GMT 13 Jul 90*

[Text] Juan Escudero, executive secretary of the Metropolitan Region Special Antipollution [decontaminacion] Committee, has said that so-called acid rain has been regularly observed in certain areas. However, he said this is not a national situation. The acid rain is the result of suspended sulfur residues from chemical refineries. This residue can be observed falling on the city at dawn—corroding metal objects, burning the soil, and causing serious harm to eyes and the respiratory system.

Escudero stressed that acid rain is so-called following a study in Germany, where coal residues were observed to emit sulfur gas and other chemical elements, but this situation does not exist in Chile.

[Begin Escudero recording] We could have a recurrent problem in the San Bernardo area. We have asked for special equipment to monitor that situation. There could also be recurrent problems in the areas around the Renca Thermal Electric Plant and the (Chagles) Smelting Plant, and in the Ventanas Region where there are thermal electric plants and a copper smelting plant.

Currently, according to information we have been collecting for many years—at least 14 years—there is no problem in Santiago. [end recording]

Escudero made these statements to the media after giving a lecture in a seminar on environmental order for the media held at the Universidad de Santiago planetarium.

DOMINICAN REPUBLIC

Yaque River Contamination Noted

90WN0167A Santo Domingo LISTIN DIARIO in Spanish 26 May 90 p 10-B

[Article by Domingo Saint-Hilaire]

[Text] Santiago—The present situation and the danger of contamination affecting the waters of the Yaque del Norte River has been analyzed by a well known professional engineer.

Emilio Almonte spoke at a panel discussion sponsored by the North Regional Committee of the Dominican College of Engineers, Architects, and Surveyors (CODIA) at its offices on Avenida Estrella Sadhalá.

He pointed out that 90 percent of the contamination affecting the Yaque River comes from industrial waste products which a group of companies and industries deposit into the river.

Almonte explained: "We can say that the contaminants which industries, located on the banks of the Yaque River, dump into the stream are equivalent to the contamination produced by a city of 400,000 inhabitants which discharges its sewage water directly into the river."

He added that the situation described in the report of an investigation made in January "is absolutely a serious matter," although he stated that "there is still time to deal with the problem."

Engineer Almonte said that the investigators checked the quality of the sewage treatment plant, after observing that constructing such a plant at present would cost between 80 and 90 million pesos.

He pointed out that the official commission presented a group of recommendations to the president for action to be taken on the spot in order to prevent the deterioration of the Yaque River.

The presentation of the views of the panelists was made by Engineer Danilo Santiago, secretary general of CODIA, while an introduction to the discussion was presented by Engineer Rafael F. Dominguez, president of CODIA.

The panel discussed the subject, "The Yaque River, Contamination and Possible Solutions." A number of well known professional figures participated in it.

Engineer Almonte was a member of the committee appointed by a decree issued by President Joaquin Balaguer on the study of the degree of contamination of the once mighty Yaque del Norte River.

After covering this important subject in all of its complexities Engineer Almonte announced the detailed

results of the investigation made by the official committee, as well as the recommendations made to deal with the problem of contamination.

Ozama River Reportedly 'Dying'

90WN0167B Santo Domingo EL NACIONAL in Spanish 9 Jun 90 p 7

[Article by Rafael Nunez]

[Excerpt] [passage omitted] The risk that the Ozama River may disappear is real. Those who know this municipality and were born in it and in other communities such as La Recta, Peralvillo, La Cuaba, La Ensenada, Los Arroyos, Serralles, La Placeta, La Gina, and La Javilla, and going as far as the Loma de Siete Cabezas [Seven Heads Hill], its source, can testify that the river has been slowly dying. This slow death is due to the implacable doings of man, who cuts down the forests in the river basin and extracts minerals and other materials held in its banks, while it showers the crops and provides water for cattle. [passage omitted]

Felling the trees in this area is a tremendous undertaking. The farmers are skilled in cutting down trees to be turned into charcoal, thereby making it possible to cook and ease their hunger.

Agricultural production in the area has declined due to the drought, as no heavy rains have fallen in the region since February. The lack of rain in this region has affected production of cocoa, coffee, the manioc root, tobacco, sweet potatoes, bananas, guandul [a tropical fruit], and other, smaller fruits.

The farmers are also charcoal burners, an activity which, along with the extraction of minerals from the river, is killing the life of what was once the mighty Ozama River.

In the view of Demetrio Amparo, a farmer, the drought has occurred in large measure because of the disappearance of the broad area of trees which once made up the Yamasa area and through which the rays of the sun could only penetrate with difficulty.

These are areas where soil erosion is noticeable, despite the fact that the land found here in abundance is fertile.

Fernando Antonio Herrera, an agronomist, states that, "Within a few years we will be left without a river because the authorities are not doing anything to attack the causes which have resulted in a decline in the river's flow, now on the verge of disappearing."

The government ordered the construction of a highway which goes from Peralvillo to Colorado. However, the company with the contract for the project is extracting material for building the road from the Ozama River. No one knows who gave permission for the company to do this.

Herrera, the agronomist, adds: "With the construction of the highway and the use of sand from the river to make cement blocks for private individuals, the people are killing the river."

He commented that, over the long run, this kind of destruction will cause the water to filter below ground, taking a long time to come up to the surface. Perhaps it will take several generations.

The drought, the reduced flow of the river, and the disappearance of many streams which used to flow into the Ozama River are factors now taken into account by farmers and agricultural technicians, when analyzing the low productivity of this area, which was once made up of productive fields of cacao, coffee, and small fruits, abundantly available for local consumption and sale in the markets of Santo Domingo. [passage omitted]

Previously, the Ozama River in this region supplied water to families for domestic use and consumption. However, the waste materials dumped into its waters make it impossible to drink.

The cattle ranches in this entire region dump all kinds of waste, according to the farmers of the area, and, consequently, they have to dig wells to draw water for their own consumption.

The first outbreak of white mosquitoes in the fields of yautia [root plants] hangs like a threat over the Peralvillo area, in addition to all of the problems of deforestation, contamination, and the slow death of the Ozama River.

River Flow Drops Ascribed to Deforestation

90WN0167C Santo Domingo EL NACIONAL in Spanish 22 May 90 p 18

[Article by Manuel Espinosa Rosario]

[Text] San Juan de la Maguana—The San Juan, La Maguana, Mijo, Donao, Jinova, Mogollon, Yabano, Yacahueque, and Yaque del Sur Rivers have practically ceased to flow, due to deforestation.

Dr. Cesar Paniagua, an expert in forestry and agricultural questions, has made this charge. He warned that with the disappearance of the basins of those rivers, the reservoirs of Sabaneta and Sabana Yegua and, consequently, the agriculture in the San Juan and Azua valleys, run the risk of disappearing in a relatively short time.

Doctor Paniagua also charged that the streams which still flow into the rivers located in the area North of San Juan de la Maguana are already contaminated.

Dr. Cesar Paniagua stated: "Gentlemen, in the basins of those rivers, which flow for dozens of kilometers, you can count the remaining trees on the fingers of your two hands—and still have some fingers left over. All of the others have been destroyed by man. This is something which is quite dramatic."

The views of the expert on forestry and agricultural issues, were expressed during a speech given at the Casino San Juan in San Juan de la Maguana. He had been issued an invitation to speak there by the Rotary Club of San Juan.

He took as an example the San Juan River, one of the largest in the country, which has been turned into an ordinary stream, like the others in the northern part of this city. All of this is due to the felling of trees.

He criticized the fact that successive governments during the past few years in this country have been spending hundreds of millions of pesos on the construction of reservoirs, without first looking into a program of reforestation in the basin areas to be implemented at the same time that the reservoirs walls are built.

He explained that the progressive depletion of water resources in the area is such that people have been experiencing water shortages because water does not reach their homes through the pipes connected with the aqueduct. He called this a serious situation.

Dr. Cesar Paniagua pointed out that the destruction of the basin of the San Juan River, whose waters fill the Sabaneta Reservoir, seriously threatens the early disappearance of that important hydraulic structure.

He announced the formation of a foundation which he will head as president, whose basic objective is to develop a strict program of reforestation, preservation, and conservation of natural resources, principally of the hydrographic basins located in the northern part of San Juan de la Maguana.

HONDURAS

Nation Said To Face 'Ecological Collapse'

90WN0168A San Pedro Sula LA PRENSA in Spanish 8 May 90 pp 8-9

[Text] Within a period of just six years Honduras has lost an expanse of woods similar in size to the department of Comayagua: over 5,000 square kilometers.

A report provided by the National Center for Applied Forest Research (CENIFA) of the National School of Forestry Science (ESNACIFOR) reveals that the main factor destroying Honduran forests is the merciless felling of trees for domestic use (firewood).

During 1988 alone, throughout the country approximately 142,966 cubic meters of wood were converted to ashes. Contrary to what is thought, housewives burned 79,000 cubic meters, while 63,745 cubic meters were put to industrial use.

The danger confronted by Honduran forests has been reported to the leading authorities and the Honduran people by forest researchers from CENIFA. They, in

turn, have been taking action to guide and make Honduran farmers aware of the repercussions that this problem will entail for the national ecology and development.

According to the report, the deforestation in Honduras has been (and still is) constant and unrelenting, with no one thus far intervening to curb this crime committed against forests.

During recent years the woodcutters have eliminated thousands of hectares of forests, cutting approximately half a million pines and over 114,000 manzanas [blocks of 2.5 acres] of broad-leaved trees that are normally used for firewood.

At a seminar-workshop held by CENIFA during April, the dramatic climate change noted during the past 10 years in the town of Siguatepeque, in the department of Comayagua, was cited as an example.

It was established that, unfortunately, the town's cool climate was gradually disappearing, and the phrase identifying Siguatepeque as the "town of pine groves" could be totally eliminated if there is no urgent intervention to regulate the felling.

The municipal authorities themselves admit that the situation has reached the point where water is becoming scarce and the region's flora and fauna are becoming extinct.

Engineer Noe Perez Regalado, chief of ESNACIFOR (National Center for Applied Forest Research), commented: "The alarming situation of the woods, demonstrated by studies conducted in Siguatepeque, is similar to that observed all over Honduras. Man is eliminating large numbers of trees all the time, and there is no concern for planting replacements."

He added: "The most regrettable aspect is that they are not cutting trees suited for firewood, but rather are destroying young plants, which are the ones that should replace the dense woods. The use of firewood as an energy source in industry and households must be reduced as much as possible, and as quickly as possible."

More suitable options for the nation must be sought; otherwise, Honduras will suffer an ecological collapse, as occurred in the United States during the last century and in Spain half a century ago. Both the government, and the armed forces, ministries, municipalities, and community leaders in general, must unite to find a solution for the felling of young wood and its excessive use.

Engineer Perez Regalado recommends that, "The solutions will have to be programmed over the long term, because they can hardly be executed within a short time. But the people must be immediately motivated to curtail the cutting of trees and waste of firewood. For this purpose banned areas must be designated where woodcutters may cut only wood to be used in their businesses.

"The best option is the use of wood that is not necessarily torch pine; substituting sources such as electric stoves, or butane gas and kerosene. The government should give an incentive for the use of heaters and electric equipment in industry and in the domestic area. One solution would be to cut the cost of electric power generated by the El Cajon dam."

He also recommended the planting of trees that require a short time to grow for firewood use; as well as the manufacture of electric stoves, and supplying power to rural zones. An agro-forest demarcation zone should also be carried out in the wooded areas.

Engineer Perez noted: "Nevertheless, there are resources that should not be lacking in the execution of projects to protect forests. These include: involving the community in prevention and reforestation work, as well as properly organizing people engaged in work involving the cutting and marketing of wood to be used as firewood."

JAMAICA

Environmental Official Notes Pollution in Kingston Harbor

*FL1107181990 Bridgetown CANA in English
1710 GMT 11 Jul 90*

[Text] Kingston, Jamaica, July 11, CANA—Uncollected garbage and the dumping of raw sewage are two main causes of pollution in Jamaica's Kingston Harbour, according to Dr. Homero Silva, director of the Environmental Control Division.

About 5,376 tons of garbage are produced in the Kingston metropolitan area each week. About 90 percent is collected for proper disposal, while the remainder is dumped mainly in open lots and gullies and easily flows into the harbour when the rain falls, Silva said. Speaking on the prospects for saving the harbour at a luncheon here on Tuesday, Silva recommended that garbage collection in the Kingston area be increased as a first step towards solving the problem.

He also suggested that the dumping site at Riverton City on the outskirts of the capital be made into a landfill to prevent further seepage into ground and surface water supplies. The site, he said, was a major source of environmental problems for the entire metropolis of Kingston. He said the extent of ground water pollution was unknown because of the lack of a ground water monitoring programme. But in the case of surface water, pollution was traced to the Riverton City dump and an illegal dump at Six Miles. Monitoring done by the Environmental Control Division also indicated that the nearby Duhaney River was being adversely affected by runoff from these dump sites.

Turning to disposal of domestic sewage, Silva said there were 35 sewage treatment plants in the Kingston Basin. Of the 15 plants in the metropolitan area, five emptied their contents into the harbour via the gullies while ten

discharged into the waters of nearby Hunts Bay. The remaining 20 deposited into the Rio Cobre, which enters Hunts Bay. The plants, the environmental engineer said, deposited about 17,413 pounds of organic substances per day, of which 15,439 pounds went directly into the harbour. Silva suggested that disposal of sewage into the main Greenwich treatment plant be stopped. A number of sewage plants in the communities of Duhaney, Calabar Mews, Harbour View, and Nanse Pen should be reactivated, he said.

He cited the contamination of several water supply wells used by the National Water Commission in the Kingston area. These wells were found with a high content of nitrates and were abandoned. Tests by the Environmental Control Division also showed the majority of wells in the metropolitan area to be polluted with nitrates coming mainly from septic tanks.

Silva said the indiscriminate disposal of toxic wastes in the island had already produced some problems such as dead fishes appearing in some areas. Moreover, the improper disposal of industrial wastes had caused pollution of some water supply wells. He cited as example the Long Mountain well north of Kingston which was found with high concentrations of chloroform and benzene along with other carcinogenic substances.

Because of lack of manpower, the Environmental Control Division was unable to state the exact amount and type of wastes generated by local industries, he added. Silva pointed out that air pollution also contributed to the pollution of the Kingston Harbour and suggested that the government set exhaust discharge limits for those industries operating along the fringes of the Kingston Harbour. He also called for a ban on the use of unleaded [as received] gasoline within the corporate area.

MEXICO

Most of Lacandon Forest Said Destroyed

90WN0164A Mexico City PROCESO in Spanish
No 706, 14 May 90 pp 26-29

[Article by Guillermo Correa]

[Text] Palenque, Chiapas—To fly over or drive through Lacandon Forest is to witness almost total disaster. Thousands of hectares, covered until only a few years ago by lush vegetation, now lie devastated, while at the same time hundreds of species of animals have been wiped out. Part of what was once one of the largest, richest forests in the world is now a vast graveyard of stumps, crisscrossed by secret roads used to extract its riches over the most expensive ground in the country: the remains of cedar and mahogany trees felled by lumber dealers, transnational companies, settlers, the Summer Institute of Linguistics (ILV), ranchers, peasants, and the Federal Government.

At most, little more than 20 percent of the original 1.5 million hectares is left. Experts say destruction is so extensive that "not even in a thousand years will it be able to recover." Governor Jose Patrocinio Gonzalez Garrido himself admits: "If we look at the speed with which the forest is being destroyed, I think the ecologists are overly optimistic. If the process continues, I believe all the rest of Lacandonia will be gone in five years."

He continues: "This would mean that the entire irrigation system of the state of Chiapas is done for because every tree is like a pump. Evaporation from the forest, carried by the clouds, is what generates the region's system of rainfall, which has suffered alarming alteration. We have the same precipitation we did before, but no longer in regular rainy seasons. Rather, it comes in the form of torrential rainfall. Last year the state's system of roads was destroyed and it cost us over 37 billion pesos to repair it. In other words, what is being done in Lacandon Forest will be paid for by a million persons who make their living from agriculture."

Situated in the northeastern part of the state, Lacandonia has always been a land of conquest. First came the Spanish missionaries and soldiers, followed by the lumber dealers in 1822. The transnational companies arrived in 1950, led by the Vancouver Plywood Company from the United States, which through figureheads came to own over 420,000 hectares of forests whose precious woods it harvested.

In the 1950's, the government opened up the area for settlement, while its former owners, the Lacandon Indians or Caribs, were driven deeper and deeper into the forest, which new settlers from all over the country helped destroy. PEMEX [Mexican Petroleum] and the Federal Electricity Commission (CFE) have done likewise, just as the National Financial Bank (NAFINSA) did before it, through the Lacandon Forest Company, Inc. (COFOLASA), set up by decree in 1974.

With Absalon Castellanos Dominguez as governor of Chiapas for the preceding six years, the forest was cut by the local Chiapas Development Corporation (CORFO), administered by Jorge Martinez Rosillo and Victor Mijangos Castellanos. For 30 years, ranchers burned and leveled forest land in order to turn it into enormous ranches. Local Indians follow their example, but on a smaller scale. Having been dispossessed of their land by the former, they scatter their maize fields through the forest just to subsist.

All these groups, some more than others, have helped destroy Lacandon Forest. Now, ironically enough, instead of the rich cedar and mahogany trees that made it internationally famous, it is increasingly overgrown with sprouting morron and jalapeno chile pepper plants.

The disaster that has befallen the forest can be confirmed by a tour of the region. The area from Palenque to Chancala is notorious for its forest fires, mainly caused by ranchers. The same thing can be observed in Ocosingo, marking the beginning of the Altos de Chiapas, also

devastated. Near Marques de Comillas, vegetation has been replaced by more people living in increasing poverty. In Pico de Oro the scenery is depressing, stripped bare by Mexican Petroleum's extractions. Highways built by the semi-official company are roads of invasion carpeted with rotting wood. The area bordering on Guatemala was laid bare to prevent guerrillas or soldiers from that country from invading the national territory.

Scholars from the Anthropological Institute for the Maya Region A.C. (INAREMAC) say it is a "beast" of a problem and maintain that maps of Chiapas lie about the facts because very little is left of the forest, although it is still depicted as it was in the 1950's, when it "was a vast green desert." One routinely meets Indians on the road offering to "sell my tree" or "ejido [Indian community-held farmlands] members" with preliminary studies from the Federal District. In addition, many ejidos have been settled by the military. INAREMAC researchers estimate that "a forest that should never have been touched" is now settled by over 300,000 inhabitants. However, one meets native Lacandons with increasing rarity because they are moving deeper and deeper into what is left of their forest. Assimilated by "civilization," they have lost much of their culture and are now reduced to selling arrows and necklaces near the ruins in Palenque or Bonampak.

Upon visiting the area, one is struck by the number of towns with biblical names: Jericho, New Jerusalem, Mount Lebanon, and others. This is due, locals say, to the "Evangelists" from the Summer Institute of Linguistics who, in the early days of settlement, urged Chiapas Indians exploited by the ranchers, "instead of fighting with the boss, to flee the conflict and settle in the jungle."

Irreversible Damage

Thousands of Chol, Tzeltal, and Tzotzil Indians obeyed their advice. They formed the Quiptic Ta Lecubtusel Ejidos Union and settled on over 40,000 hectares. However, on 6 March 1972, without taking them into account, President Luis Echeverria ordered that 614,000 hectares of Chiapas forest be transferred to each of the 66 Lacandon heads of family already registered. The confrontation with the new landowners came immediately, and yet the former owners were driven back to two other population centers: Frontera Echeverria and Dr. Velasco Suarez. The eviction and resettlement were achieved by force and destruction of the forest intensified.

According to Governor Patrocinio Gonzalez Garrido, 440,000 hectares of the forest have been affected. The damage is irreversible, he states, because the tropical vegetation cannot be reconstituted artificially. "We Chiapas natives have pledged to protect what remains and for that purpose have developed a program in coordination with federal agencies, which in this case are obeying guidelines set by the state government.

"What we want to achieve with our program is a balance between ecological protection and community development. We cannot condemn the inhabitants of the forest. Many are from Guerrero and Michoacan, but the vast majority are Chiapas Indians. We cannot doom them to subhuman living conditions without any hope of development in order to preserve an ecological resource. That is why we are trying to reconcile the two principles. To do so, we have proposed to develop a seasonal agricultural economy, mainly based on corn for their subsistence, chile peppers, a product of substantial value, beans, which are now profitable with the new prices, and a program of medium-range crops consisting of 10,000 hectares of rubber, cacao, some coffee, and other crops.

"Last year we planted 156 hectares of rubber. This year we will plant 2,100 and we will meet our goal during the remainder of my administration. We think that with parcels of three hectares per family, they can earn a basic income with two hours of work a day. This will provide them with a decent living while at the same time leaving land free for crops to be grown permanently and providing additional income. The program also includes an infrastructure: water, drainage, and roads, all within the context of a general ban on lumbering and on opening up more land for cultivation."

The governor concedes that wood is still coming out of Lacandon Forest illegally, but in minimum quantities. He says that lumbering was suspended last year, but "some 80,000 cubic meters were left behind because of the rain and still has to be shipped out." He warns that any wood cut "will be left to rot in the forest and that penalties will be imposed on violators." He emphasizes: "No new permits are being or will be authorized in the zone. We have also placed a ban on the area of Chimalapas, bordering on the state of Oaxaca, and shall continue to do so. Chiapas is the state hardest hit by the destruction of woods and forests. In the past 10 years, we have begun to compete with Mozambique for first place in the world in terms of the amount of ecological damage done to our forests."

He adds that his government's policy is therefore very strict. "We know there are complaints and protests from the so-called lumber companies, which are no more than sawmills, but we cannot continue to grant permits. This year, what we granted, amounts to 57,000 cubic meters and only involves infested trees that must be cut to protect the forest. Otherwise the pests could spread and cause even greater damage."

The governor claims the amount of lumber taken out illegally is minimal, but peasants disagree. On 15 February of this year, TIEMPO, the San Cristobal de las Casas daily, reported that despite the order from President Carlos Salinas de Gortari, the ban on the Lacandon Forest has not been obeyed: "Lumbermen in Tabasco, Quintana Roo, and Jalisco continue to defy federal authorities with impunity. In this case, they are from SEDUE [Urban Development and Ecology Secretariat],

but they enjoy the complicity of forestry personnel from SARH [Secretariat of Agriculture and Water Resources]."

This accusation was leveled by the chairman of the board of directors of the Union of Southern Border Ejidos, Tzotzil Mariano Perez Jimenez, who had to flee to Peten Forest in Guatemala as a result of death threats he received. Among the wood and fauna looters he mentioned were Mariano Cano from Teapa, Tabasco, Silvia Pompeyo from Merida, Yucatan, and Jose Luis Romo from Villahermosa. As the main accomplice he identified former state CNC [National Peasant Confederation] official Manuel de la Torre Rodriguez, who has been operating for at least 20 years, taking advantage of posts in the Secretariat of Agrarian Reform (SRA), the Secretariat of Agriculture, and the Institutional Revolutionary Party (PRI). De la Torre now works as a "security officer" in National Peasant Confederation offices in the Federal District.

Interviewed by PROCESO in his Palace of Government office in the Chiapas capital, the government said anyone found cutting in the forest would be jailed and that no ranchers or peasants would be allowed to continue burning. He said there are already over seven million trees in nurseries for reforestation programs because Lacandon Forest "is already beyond help." He reported that crop programs for Lacandon inhabitants will receive 17 billion pesos and that local organizations have been taken into account.

However, communities in the area of Marques de Comillas, which belong to the Julio Sabines Perez and Southern Border Ejidos Unions, complain of the scarcity of crop land, illegal trafficking in natural resources, continued promotion of migration to Lacandon Forest by pseudo-leaders and the SRA, and a lack of teachers, health services, and housing. They refuse to be labeled as pillagers of the forest and reject the presence of Mexican Petroleum. They claim that development programs have been imposed on them and complain their opinions are not taken into account. They claim "the improper use of natural resources is due to poorly channeled agricultural distribution, lack of knowledge of the soils or techniques suited to the area, the economic and political ambitions of private, parastate, and transnational companies, and the snail-like bureaucracy."

To all of which the governor responds: "We do not take them into consideration because they are asking us to open up new land for cultivation. Dialogue does not mean they will get everything they want. There are other alternatives and our position is inflexible. We are not going to let any more trees be taken out just so they can plant their little corn fields. We shall not do so because it is not compatible with our progress in preserving the forest, which, in the final analysis, is their own legacy because that is where their children will spend their lives. It is their future."

Nevertheless, to bring back Lacandon Forest, according to Miguel Alvarez del Toro, director of the Institute of Natural History and a member of the State Forest Development Committee, "will take at least 1,000 years." Indeed, Lacandon Forest has lain mortally wounded for a long time.

SRA Role in Forest Destruction Charged

90WN0164B Mexico City LA JORNADA in Spanish
4 Jun 90 p 7

[Text of open letter to President Carlos Salinas de Gortari by the "Group of 100"]

[Text] Carlos Salinas de Gortari, Constitutional President of the United States of Mexico

Dear Mr. President:

We Mexicans have lost our sovereignty over our natural resources in terms of exercising control over the use and fate of the nation's ecosystems, which are being destroyed by uninformed minorities to the detriment of the majority of our people. It is essential that the government regain possession and use of these resources for our country and guarantee their proper administration and conservation. The essential resources of our biosphere must in all instances belong to our nation and comprise its natural legacy.

In recent years, destruction has reduced Lacandon Forest to such a minimal area that the integrity of its ecosystems can scarcely be preserved. Only a small part of the original portion is intact. Plans now exist to further reduce the protected area, leaving out thousands of hectares for the purpose of subsequent exploitation minus the application of any standards of protection or sustained forestry practices in so-called "buffer" zones around Montes Azules aimed at containing uncontrolled deforestation.

In anticipation of an imminent order concerning Montes Azules and in a desperate joint effort to establish rights, ejidos [Indian community-held farmlands] are extending their boundaries as far as the reserve and even well into it with the support of the Secretariat of Agrarian Reform (SRA). All these ejidos are violating the presidential orders of 1971 and 1977 on Lacandon Forest and the SEDUE [Urban Development and Ecology Secretariat] proposal of 1986. Nevertheless, many of them, such as Lindavista, Nueva Argentina, Villa Flores, Las Pimientas, and San Gregorio are opening up new breaches for the purpose of setting new boundaries. Most applicants are "ghost" ejido members. For example, in Las Pimientas, where it is claimed that there are 25 applicants, only one family is claiming 3,000 hectares. In Villa Flores, there are 39 applicants and three families to occupy over 1,600 hectares. San Gregorio, with three families, has 41 applicants for nearly 5,500 hectares, as well as 1,833 hectares of rich forest per family, which makes them large estate holders. It is obvious that expansions in the region do not even have any demographic base.

During the months of March and April, 200 Chol Indians from the Nueva Palestina region invaded the northern bank of Lacantun River in the Montes Azules Reserve and cut some 40 hectares in areas they have settled in order to create rights of ownership (even though they already own other land), taking advantage of the fact that the SRA considers forest land idle and only land used for extensive agriculture and ranching productive. Changes must be made in this absurd law which leads to maximum corruption in the management of our natural resources and massive deforestation of the country.

The communities that have been established in Miramar are mainly those of San Quintin which engage in poaching. They kill tapirs, spider monkeys, in order to take away their young, river crocodiles, and jaguars, and capture macaws. The region has many species of animals in danger of extinction: jaguars, red macaws, zenzos [as published], "rat-tailed" armadillos, white tortoises, black apes, spider monkeys, tapirs, and many reptiles that have not yet been studied in Mexico. Illegal hunting is extensive inside and outside the reserve.

If the government does not put an immediate stop to such uncontrolled invasions and drive these plague-like predators from the reserve -and here we are referring to the very heart of Montes Azules, the Sierra Caribe and the Rio Negro- then the concept and existence of the preserve will be null and void. We shall then witness the beginning of the end of the reserve and with it the last tropical rain forest in the Northern Hemisphere.

According to a study by Dr. Jeffrey Wilkerson, the Lacandon Forest is experiencing a rate of destruction faster and more widespread than what is going on in the Amazon, with 70 percent lost in just 30 years. In 1875, the forest totaled 1.3 million hectares; between 1875 and 1960, it declined six percent. Between 1960 and 1982, the loss was 1.6 percent a year, with destruction 22 times faster than that of the preceding period. From 1982 to 1990, it rose to 3.5 percent a year, 50 times faster. What once took 50 years to destroy now takes a year. With such a rate of devastation, the forest is in danger of disappearing within the next five to ten years.

Mr. President, your government has pledged to defend the environment, and Lacandon Forest needs a clear, well-defined policy for its salvation. It is therefore urgent that you order combined action by all agencies active in the region (SARH [Secretariat of Agriculture and Water Resources], SRA, CFE [Federal Electricity Commission], SCT [Secretariat of Communications and Transportation], PEMEX [Mexican Petroleum], SEDUE, BANRURAL [National Rural Credit Bank], INAH [National Institute of Anthropology and History], INI [National Indian Institute], FIRA [Trust Instituted for Agriculture], FIDEHULE [expansion unknown] the Secretariat of Defense, and so on) and that you implement the measures needed to protect it properly, based on a territorial reorganization whose point of departure is protection of the Montes Azules Biosphere, by issuing a public resolution that none

of these agencies (some of them with a long "ecocidal" history) carry out projects and actions that violate the integrity of its ecosystems.

Group of the 100

Jaime Sabines, Rufino Tamayo, Gilberto Aceves Navarro, Homero Aridjis, Manuel Alvarez Bravo, Antonio Alatorre, Nedda Anhalt, Rene Aviles Fabila, Juan Banuelos, Hilda Bautista, Humberto Batis, Feliciano Bejar, Arnold Belkin, Fernando Benitez, Alberto Blanco, Elsa Cross, Ali Chumacero, Fernando Cesarman, Rogelio Cuellar, Jose Luis Cuevas, Federico Campbell, Felipe Ehrenberg, Manuel Felguerez, Guillermo Fernandez, Mariano Flores Castro, Margit Frenk, Carlos Fuentes, Juan Garcia Ponce, Ula-lume Gonzalez de Leon, Ricardo Garibay, Gunter Gerzso, Margo Glantz, Hector Garcia, Juan Jose Gurrola, Roger von Gunten, Mathias Goeritz, Francisco Icaza, Barbara Jacobs, Ethel Krauze, Alejandro Aura, Arturo Lomeli, Salomon Laiter, Maria Luisa Mendoza, Guadalupe Loaeza, Luis Lopez Loza, Vicente Lenero, Miriam Moscona, Elba Macias, Gabriel Macotela, Raul Cossio, Victor Manuel Mendiola, Sergio Mondragon, Salvador Elizondo, Paulina Lavista, Raul Herrera, Ludwig Margules, Arturo Mecalco, Augusto Monterroso, Ofelia Medina, Carlos Monsivais, Francisco Nunez, Ana Pellicer, Sergio Pitol, Mariano Rivera Velazquez, Ivan Restrepo, Shirley Chernitsky, Cordelia Urueta, Vlady [sic], Edmundo Valades, Marti Soler, Margarita Villasenor, Heracleio Zepeda, Federico Reyes Heróles, Alberto Ruy Sanchez.

In charge of publication: Sergio Fuentes

Sewage Treatment Plant Statistics

90WN0164C Mexico City EXCELSIOR in Spanish
6 Jun 90 STATES section pp 1-2

[Article by Manuel Guevara]

[Excerpt] Queretaro, Queretaro, 5 Jun—Only 10 of the country's 400 sewage treatment plants operate properly, Rafael Manjarrez Andion, chairman of the National Liaison Commission between SEDUE [Urban Development and Ecology Secretariat] and CANACINTRA [National Association of the Processing Industry], announced here today.

In addition to this fact, the country's 20 hydraulic basins are suffering from pollution, with approximately two million tons of waste materials doing grave harm to the nation's ecology.

Speaking on the topic "Grey Water for Agricultural Use" as his contribution to the First Industrial Ecological Congress being held in this city, the commission's representative appealed for combined efforts to check the progress of environmental deterioration.

He said that confronted with a steadily dropping water table and an ever greater demand for drinking water, it is necessary to have systems to recycle raw sewage and grey water in order to prevent that vital element from being depleted in a few short years, as has already happened in several places in the country. [passage omitted]

Chernavin Assurances on Nuclear Submarine Safety Doubted

PM1707130390 Moscow IZVESTIYA in Russian
17 Jul 90 Morning Edition p 6

[Open letter to Fleet Admiral V.N. Chernavin, commander-in-chief of the Navy, from V. Perovskiy, former commander of the survivability division of the Lenin-skiy Komsomol, the first Soviet nuclear submarine, under the rubric "Follow-Up": "Danger—Reactor!"—first paragraph is editorial introduction]

[Text] IZVESTIYA (No. 166) published a piece about the protests of residents of the city of Sovetskaya Gavan at the Pacific Fleet command's plans to unload spent nuclear fuel from obsolete submarines in Postovaya Bay. The commentary by Fleet Adm. V.N. Chernavin was patently reassuring but, as subsequent events have shown, did not eliminate the tension in Sovetskaya Gavan. Moreover, there is also a different view regarding the safety of the nuclear submarine fleet. The letter that we are publishing is about this.

Esteemed Vladimir Nikolayevich! I understand the sheer delicacy of a situation in which a civilian ventures to give advice to the top man in the country's Navy. Nevertheless, exceptional circumstances prompt me, a reserve officer, to address you in precisely that way, because the matters discussed in the IZVESTIYA piece (it talked about safety in exchanging the charge of reactors in our nuclear submarines) were for a long time part of my official duties in more than 25 years' service in the Northern Fleet. So I have a few remarks about your commentary.

Though you rightly speak of many years of experience of operating nuclear submarine reactors, you fail to mention that this experience has been paid for with people's lives and losses of ships and, sad to say, is still being paid for to this day.

It is very difficult to agree that techniques for recharging reactors are well organized and backed up with the necessary resources. If they are organized, it is only in the worst possible way and they are based solely on the selflessness of officers and the patience of sailors. The technological *modus operandi* laid down in 1959-1960 is totally obsolete. It is absurd, wasteful, and scarcely capable of ensuring an appropriate standard of work in the future.

As for the technical equipment, there is always a disastrous shortage of it. Recharging equipment has remained fundamentally unchanged for decades and, sad to say, the chief protagonist when cores are being removed from reactors remains the sailor with a sledgehammer.

Great hopes were pinned on the new technical support and depot ships. However, the unpreparedness of the centers at which they are based, design miscalculations, and organizational disarray sharply reduce the potential of these expensive technical resources. Years are passing,

but there are no signs of any hopes of an improvement. Rather the reverse: The prestige of the trade of recharger is declining and the level of specialized training is falling with the change of generations. Conflicts are brewing between the officers of technical support ships, rear services, and control organs and may have an unpredictable effect on the safety of work whose nature is unique.

The pressure-vessel reactors used in ship power plants are reliable at all stages of operation except one—the unsealing of the reactor prior to unloading the spent nuclear fuel. During this operation there is only passive monitoring of the state of the reactor and the slightest blunder by personnel may displace the reactivity compensation devices, entailing a release of reactivity. How all this ends is well known from the tragic example of the refueling of a Pacific Fleet submarine.

Even after the spent nuclear fuel has been unloaded, the unsealed reactor is itself an extremely powerful radiation source for a while and requires special measures to maintain the safety of the environment.

The commentary mentions an expert commission that found no violations at the naval bases on the Kola Peninsula and in Arkhangelsk Oblast. With all due respect for the prestige of the participants in the survey, I don't think that its results should be interpreted with such latitude. The commission's task did not include a detailed survey of installations and technology intended for handling radioactive waste and spent nuclear materials—the end products of the activity of nuclear-powered Northern Fleet ships (and nuclear-powered ships belonging to the Murmansk Shipping Company).

We who are professionally involved in this problem feel simply ashamed to speak of the extent of the technical neglect in this sphere. The unpreparedness of the fleets for the decommissioning of nuclear submarines (and nuclear icebreakers too) which have reached the end of their lifetime has exacerbated this problem to an extreme extent.

There is not enough space in a letter, Comrade Fleet Admiral, to cite all the proof confirming the depressing situation in such a delicate sphere of the fleet machinery. The author hopes for direct dialogue and is prepared for it at any level, especially as the urgency of taking measures is self-evident. It is even more self-evident that science should rectify the situation in a timely way. Alas, at present official science with its departmental character and hierarchical structure is scarcely capable of this. Technological breakthroughs are possible only via unorthodox approaches.

One last point. Everyone must know that the dismantling of nuclear submarines that have reached the end of their lifetime and the creation of a modern infrastructure for handling radioactive waste will entail expenditure comparable with the construction of new nuclear-powered ships.

[Signed] V. Perovskiy, former commander of the survivability division of the Leninskiy Komsomol, the first Soviet nuclear submarine, Leningrad.

Local Soviet Challenges Arctic Nuclear Test Plan

*PM1707102390 Moscow IZVESTIYA in Russian
15 Jul 90 Morning Edition p 2*

[Viktor Filippov report: "Will the Secrets of the Northern Test Range Be Revealed?"]

[Text] Naryan-Mar—A session of the Nenets Okrug Soviet has appealed to the USSR and RSFSR Supreme Soviets regarding the Novaya Zemlya Test Range.

A report on the possible transfer of underground nuclear tests to the polar archipelago of Novaya Zemlya runs counter to the idea of a nuclear-free zone in northern Europe advanced by our government. It has provoked a wave of public protest. In view of this, at the end of May the military departments allowed a group of people's deputies from the Arkhangelsk Oblast and the Nenets Autonomous Okrug into Novaya Zemlya for the first time since the test range was opened in 1954. "Unfortunately, they received us as tourists who should only know about the achievements," one participant in the visit observed.

Despite the information published in local newspapers that the radiation situation is safe for the inhabitants of the polar region, the negative attitude to the test range has not changed. For this reason the Nenets Okrug Soviet session has appealed to the parliamentarians of Russia and the country as a whole. In particular, it considers it essential that the plans for the use of the Novaya Zemlya Nuclear Test Range be published and compensation be introduced for those who live in the zone of its influence. The people's deputies are concerned that the military departments have turned the Arctic archipelago into a zone which is not subject to the organs of Soviet power and are insisting that the settlement soviet be restored there.

Government Nuclear Official on Khmelnitskiy AES 'Blockade'

*PM1707082990 Moscow IZVESTIYA in Russian
16 Jul 90 Morning Edition p 4*

[Interview with G. Kopchinskiy, head of the Nuclear Power Department of the USSR Council of Ministers Bureau for the Fuel and Energy Complex, by correspondent V. Zaykin under the rubric "From Competent Sources": "Blockade of Khmelnitskiy AES"; date, place not given]

[Text] These days alarming events are developing outside the Khmelnitskiy AES [Nuclear Electric Power Station]. The Ukrainian movements "Rukh" and "Green World" have organized a blockade of the station, evidently confident that this is the best means of voicing their protest. The situation now is such that the safe

operation of the nuclear installation has been jeopardized. IZVESTIYA's correspondent met with G. Kopchinskiy, head of the Nuclear Power Department of the USSR Council of Ministers Bureau for the Fuel and Energy Complex.

[Zaykin] Georgiy Alekseyevich, what is happening at the station?

[Kopchinskiy] It has been operating under extremely complex conditions for several days now. Hundreds of people have organized an active blockade of the functioning No. 1 reactor unit. They are preventing repair teams from getting to work, and operating personnel are having tremendous difficulty getting through the picket lines. There have been instances when AES leaders have been unable to get to their work places. The normal regime for supplying the station with essential materials has been disrupted, since all the spur tracks have been closed. Personnel are being insulted, and those continuing to operate the station are even being subjected to threats of physical violence. The nerves of the specialists operating the station are literally at breaking point. All this is jeopardizing the nuclear installation's safety and, moreover, creating a nervous atmosphere at other stations, which are demanding that the Khmelnitskiy AES personnel be protected against the illegal actions of pickets.

[Zaykin] What is the cause of such passions?

[Kopchinskiy] The local oblast soviet has declared a moratorium on enlarging the nuclear station. Demands have been advanced not to begin constructing the third and fourth reactor units and not to load nuclear fuel into the second one, whose construction is already nearing completion. The blockade of the AES began virtually right after the oblast soviet decision. There was no question of any talks involving the local organs of power, the "greens," the Ministry of Nuclear Power Generation and the Nuclear Industry, or the Ukrainian Supreme Soviet. In fact, no deadlines were even set to make it possible to find alternative employment for the approximately 6,000 construction workers now working at the station.

Of course, the organs of power and local inhabitants have a right to hold and express their own viewpoint on questions of the region's power supply and the ecological situation there. But such crude and dangerous methods must not be used. Who is preventing the "greens" from substantiating their disagreement and asking the republic Supreme Soviet to decide the station's fate? In this case they are gambling on emotions. And it turns out as a result that people who advocate enhancing the station's safety are achieving quite the opposite results through their actions.

The blockade must be lifted without delay. It could have sad consequences at any moment.

[Zaykin] A USSR law on the use of nuclear power is now being drawn up. Will it envisage ways to settle such conflicts?

[Kopchinskiy] Certainly. Today, when various parts of the country are becoming independent, the chief responsibility for supplying the population and industry with electricity and heat will be entrusted to local organs of power. Having analyzed the region's economic state and the ecological situation and consulted with the public, precisely these will have to decide which source of energy to elevate. They will submit their application to the republic government. Then there will be no grounds for emotional outbursts and no reason to accuse central departments of siting nuclear installations based on "self-seeking" interests.

The law will stipulate the responsibility of the departments operating a nuclear installation, as well as responsibility for any actions which lessen its safety.

Opposition to Mukachevo Radar Station Criticized

907Q0111A Moscow *RABOCHAYA TRIBUNA* in Russian 1 Jun 90 p 4

[Article by S. Doronin: "Who Is the Space Sentinel Disturbing?"]

[Text] When passions flare, common sense takes a back seat. This is again confirmed by the situation which has come about in Transcarpathia around the Space Objects Tracking Center.

Alas, because of inflamed sociopolitical passions around the Space Objects Tracking Center being built near Mukachevo, scientists and specialists whose competence no one dares to doubt were compelled to recommend that the government stop construction of the transmitting center and that the Transcarpathian Oblispolkom [oblast executive committee] examine the question of its utilization in the interests of the oblast's economic needs. And this comes after the main arguments of opponents of the radar station were completely refuted—that it would supposedly have a most unfavorable effect on people's health and on the environment, that it would sap available reserves of mineral and subsoil water. One must ask—could the commission do otherwise and ignore the opinion of 800,000 Transcarpathians as reflected in a referendum?

And so the commission was "pressured" in a very negative way. A final decision on continuing or freezing construction is now up to the leadership of the country.

In short, we must ask the question: "Does the state need the Space Objects Tracking Center in Transcarpathia or not?" In responding, we should note that it will replace an existing station whose operation is becoming ever more complicated in view of the fact that it is technologically outdated. And today there are tens of thousands of objects revolving around our planet (each in its own

orbit!), artificial earth satellites and remnants of the launch vehicles which put them into orbit. Specialists take stock of each of these. Every one is constantly under observation. Their trajectory leaving orbit and approximate location to which they will fall are calculated.

God forbid there should be an error under today's conditions of nuclear missile confrontation, mistaking a fragment returning to earth from space for a ballistic missile headed toward us.

The radar station in Transcarpathia is one of several situated in the western area of the country. There is a similar station in the Baltic region not far from Riga.

We should note that the same kind of reaction observed in Transcarpathia is being seen in Latvia too. But there reason has prevailed to the greatest extent. Ecological issues have come to the fore which might involve increased construction costs, but at least they can be resolved.

But here in Transcarpathia the fight against the radar station is not so much of an ecological nature—its essence has acquired more of a political character. Whether we have the radar facility or not, this matter is already the symbol of a textbook offensive, the only "victor" of which can be the people, who claim respect and have the full right to expect that their opinions will be taken into account in first order.

But let us be realistic as well. Whatever may be said, the country needs this radar facility. Its construction is not somebody's whim. The decision was made for other reasons—primarily state security. Is it possible we need yet another Rust incident before we are convinced that state security is not adequate? Only this time it would be an event in space.

And so, a state commission has confirmed that the Space Objects Tracking Center being erected near Mukachevo, after certain design improvements, will not cause any harm to the unique natural environment of Transcarpathia. Taking public opinion and the views of scientists into consideration, the design organization proposed a variant which would significantly reduce the volume of water used to cool the radar facility systems. And hydrogeology experts showed that the mineral springs of Mukachevo and Svalyava would not suffer. It would seem everyone should acknowledge the argument of the commission that the electromagnetic flux output of the facility was safe, insofar as the norm established in the country would not be exceeded—10 microwatts per square centimeter. Compare this index with the limit established by the World Health Organization—200 microwatts! But in order to remove the tension which had arisen in the oblast, it was decided to take additional technical measures to further decrease the level of emissions of the station. As a result, the electromagnetic flux will be reduced more than 100-fold.

All members of the state commission signed its conclusions and recommendations—including Uzhgorod scientists V. Komendar, S. Pop, F. Telichko, I. Khimich, and V. Khiminets. Nonetheless, here they are several months later making exactly the opposite assertion in IZVESTIYA (12 May issue of this year): that "there is no room" for the Transcarpathian radar facility "at the center of one of the most densely populated regions of the country and Europe." Which of their declarations is to be believed?

It would not be superfluous in this regard, we believe, to heed the view of experts—candidate of medical sciences K. Nikonova of the Institute of Labor Hygiene and Occupational Diseases of the USSR Medical Sciences Academy; Professor V. Shekhadyrov, doctor of medical sciences at the Biophysics Institute of the USSR Health Ministry; candidate of medical sciences V. Stepanov, director of the laboratory for setting hygienic norms; and V. Yemelyanov, candidate of physics and mathematical sciences and director of the biophysics laboratory. Based on USSR and foreign research data gathered over 1953-1990, they declare with full responsibility that marked functional disorders arise in the human organism only under the extended influence of an electromagnetic field with energy flux density greater than 10,000 microwatts per square centimeter; i.e., a thousand times greater! Is this not a convincing argument?

We can use other data for comparison. Compared to the energy flux density for emanations permissible in our country, the United States norm is 100 times greater. In the FRG it is 250 times greater, in England—40 times greater, and in Canada—20 times greater.

Operational radar facilities in the United States include stations in Otis (Massachusetts), Beale (California), and Grand Forks (North Dakota). A similar radar facility is being constructed in Fylingdales Moor (Great Britain). You will note these are densely populated regions.

Those who are so resolute in their opposition to the Space Objects Tracking Center in Transcarpathia really should stop and think. Emotional assertions not accompanied with precise data attesting to its safety can shake public opinion. But what price—material and political—will we have to pay for it?

'Public Trial' of Volga-Don Canal Project Held

*PM2106142090 Moscow PRAVDA in Russian
19 Jun 90 Second Edition p 6*

[PRAVDA correspondent Yu. Shcherbinin report under the "Ecology Diary" rubric: "They Admitted Their Errors..."]

[Text] Volgograd—A public trial of the originators of the Volga-Don-2 Canal has taken place in Volgograd. Everything was apparently as it should be in this civil action—the president of the court, the indictment, the defense. Only the defendants were missing.

The large number of media statements in defense of the great Russian river appeared, at a given stage, to have met with understanding on the part of the government. The conclusion of the recent team of specialists from the state expert commission is convincing: The construction of the canal should be suspended. But while we have the scientists' and experts' recommendations, we do not have a government decision. The huge scoops of the excavators continue to eat mercilessly away at the land, deepening an already incurable wound.

There is no longer a Ministry of Land Reclamation and Water Resources or a Ministry of Water Resources Construction, but the concern that was set up on the basis of the ministries under the leadership of P. Poladzade, unlike the government, is consistent in its actions—it is building the canal as if nothing had happened. In order to secure the financing of a construction project condemned to closure by the people, last year, with the help of the local authorities, they turned out the pockets of many kolkhozes and sovkhozes. The administrative edict system, which we speak of in the past tense, is continuing to operate painlessly here.

But there are subtleties. The construction of the canal began in a certain set of conditions, when resources came out of the state budget. Now the financial burden (both material and technical) has fallen on the shoulders of the people of Volgograd.

Is Aral not enough for us?

Here people still remember the local leaders' statements on suspending construction, statements which they were generous with during the election campaign. It was largely on this basis that they won the people's trust. And all of a sudden, an about-face—they ask the Russian Soviet Federated Socialist Republic to resolve the question of completing the construction of the first phase of the canal.

Representatives of the oblast soviet executive committee, the oblast environmental protection committee, and the oblast CPSU committee were not present at the public trial.

Volgograd Public Ecological 'Court' Examines Volga-Don Canal Project

*90WN0143A Moscow IZVESTIYA in Russian
14 Jun 90 Morning Edition p 6*

[Article by Special IZVESTIYA Correspondents Ye. Manucharova and V. Kornev: "In the Name of the Volga"]

[Text] Volgograd. The verdict is in on the system which gave birth to the "project of the century," ruinous to both man and nature.

The first public ecological court was held in Volgograd, where it heard the case of the Volga-Don-P [perebroska—transfer] canal. The court aroused increased

interest even at the preparatory stage. What is it? An exotic invention by social activists, or an event which will have serious consequences? Now that the session has been held, we can confirm—it is an event. A real opportunity has appeared to take nature under the protection of the court, and to determine from a legal standpoint the liability of responsible officials for damages wrought to nature.

The structure of the ecological court, naturally, is somewhat different from a traditional court. Chairman V. Rabochiy is a lawyer. Members of the court are also lawyers, both the prosecuting and defense attorneys. And then there are the jurors: these are scholars and specialists of various profiles, members of various parties in our country, as well as representatives of the faithful—Father Dmitriy (Nesterof), priest at Svyato-Nikolskaya Church. Members of the court and witnesses as well are residents of several Volga oblasts: Astrakhan, Saratov and Volgograd Oblast, of course. The side of the plaintiff is represented by the Committee to Save the Volga, the Ekologiya Society, the Volgograd Voters' Committee, and deputy groups among which is a group of People's Deputies of the USSR.

The court was a long time in preparation. On the eve of the hearing we once again drove out with the plaintiffs, to the site of the ecological crime. Here along the canal route, everything is going along as if the sense of the decisions taken on this construction project was to put the canal into operation ahead of schedule. And not to put a stop to it, and not conservation—as is in fact the case.

Every 15 days work brigades from Moldavia and Stavropol are replaced. A lot of the construction workers are Vietnamese. Work is carried out by the watch method, through 23:00 hours, with no days off nor holidays. The builders make no secret of the fact that they plan to present the country with a *fait accompli*. This will mean the inevitable transfer of waters from the Volga to the Don. And inasmuch as the water balance of the Volga is negative, the next step would be to transfer waters to the Volga from the Pechora, from the North.

This prospect becomes all the more real with every newly-excavated meter of the channel (yesterday, today and tomorrow). And that is why it is not only a question of the canal, but of the fate of the Volga and the northern rivers as a whole. Speaking for the plaintiffs, L. Saveleva, chairperson of the Volgograd affiliate of the Committee to Save the Volga, spoke of the fact that there must be an official declaration, that the Lower Volga has been turned into an ecological disaster zone.

The agencies have not come to grips with the fact that the ecological situation has reached a critical stage. And it is precisely the agencies and the organizations which are helping to implement its plans, that were brought to trial as the defendants.

They are: the Volgograd Party Obkom [Oblast Party Committee] and Oblast Ispolkom [Executive Committee]; the USSR and RSFSR Minvodkhoz [Ministry of Land Reclamation and Water Resources] and their planning institutes; and also the "Volgo-Don-Transfer" (the actual title) canal construction directorate. When the chairman of the court was questioning those present, it became clear that there was only one person representing the defendants: a legal advisor who was carrying out the instructions of the professors at an agricultural institute. It must be stated that the court was most disturbed by the failure of the obkom officials to appear. We would point out that the new chairman of the Volgograd Oblast Soviet, V. Makharadze, who is not a defendant, did appear in court, even though he is just as busy as the others.

Those who ordered the start of the construction project were barely mentioned at the trial; interest in Murakhovskiy or Vasilyev has already faded. The baton of the destruction of the land has already been seized by others. The prosecutors put it as follows: "We cannot dislodge the Minvodkhoz projects without 'our own people,' without the 'top people' in our Volga oblasts."

The witnesses gave everyone their just deserts. Here in court they spoke openly of the chairman of neighboring Astrakhan Oblast, I. Dyakov, as a protector of the Volga. But they call their own people, the Volgograd Obkom secretaries, "guardians of the ideals of Minvodkhoz." First among these was V. Kalashnikov. Before coming to Volgograd he was RSFSR Minister of Land Reclamation and Water Resources—a real "flip-flopper." After he became a secretary, he took the very same positions—disregarding the opinions and interests of the people of the Volga. But with the change in the political winds, before departing for Moscow, he began to speak about "saving the Volga."

A. Anipkin, the Volgograd Obkom secretary who came to replace him, knew how hateful the canal is to the people of the Volga, appeared to side with the people at the pre-election meetings.

A tape recording of the meeting was played at the trial: in the recording, the secretary indignantly declared, "Personally, I cannot at all understand why no ecological analysis of the canal was ever done." The speech at the meeting also contains this phrase on the construction of the canal: "This question did not depend on us."

But the court showed that all this was election campaign rhetoric, and divulged the contents of a letter which Anipkin had sent to Moscow, which were in conflict with his public utterances, and which were kept secret from the oblast Soviet of People's Deputies. In his letter he asked that the canal work not be closed down, but that it be completed. It would provide only one-tenth as much water as planned, but it should be finished in order that the oblast could build irrigation systems on the land bordering the canal, and turn these lands into a garden for other oblasts.

The letter exposes not only the insincerity (I'll say!) of the first secretary, but also his complete ignorance of the region. For his "garden" he chose Panshinskiy Sovkhoz, the very one which suffers the most from the construction project. The canal cuts it in half, threatens the demolition of its homes and the destruction of its ancestral burial places ("The cemetery will be destroyed"). The sovkhos lands, which until recently had been fertile, will be inundated, become salinized, and will be turned into a swamp. The builders cut down forests, and ruined the Sakarka River so that the fish have disappeared. N. Popov, party committee secretary on Panshinskiy Sovkhoz testified to this at the trial.

"We appealed to Minvodkhoz and to local authorities with our problems," said Popov. "But what happened? No response whatsoever. The promised housing would be built anyhow." This is a well-known trap of the agencies: when they start any kind of project, they guarantee that part of the assets will be spent for social needs. But they are in no hurry to carry out their promises. The main thing for them is—their own purposes: that enormous billion-ruble state order, which was received for the canal.

The public court was unable to determine the dimensions of all the physical damages the transfer-canal project caused. But certain figures from experts led to an addition to the official conclusion made by GEK [State Examining Commission] of USSR Gosplan (which was read aloud in court). Specifically the depth of the canal for the watershed between the Don and the Volga was specified as—40 meters. But the hills have already been cut up in such a way that they cannot be restored.

The conclusions of expert witness V. Suslovoy, scientific associate at the Saratov Fishing Industry Institute: "The damage which the canal will cause to the fish population was determined by the clients themselves, and therefore the data were intentionally scaled down. The figures cited are far too low. We have made our own calculations, and it turns out that the total damage to the fish population is measured in many thousands of tons, for a total sum of about 27 million rubles."

Expert witness V. Azovtsev, a fellow at the Institute for Soil Study imeni Dokuchayev: "The plan for the canal does not at all reflect the fact that the soil will become salinized. According to our calculations, that process will take in thousands of hectares of land."

What does this mean? That our Volga will perish? It is we who will perish—the people of the Volga!... That is the sense of the witnesses' testimony. But that does not signify that it was only the purely economic damage that concerned them. The plaintiffs and witnesses were bothered most of all by the flouting of moral principles and legality. In resisting this, the public has selected the proper form for its defense and its protest—the court.

The people have made a very precise case of why the immoral behavior of today's leaders seems even worse than that which took place under Stalin or Brezhnev.

Then, a great deal was hidden from the people. But today they pay no heed and openly carry out illegal construction projects, convinced that they are engaged in its conservation.

The jury, in delivering the verdict, summed up as follows:

"We must condemn the economic system, in which non-specialists and party apparatchiks interfere in economic activity. Activities not founded on scientific knowledge are criminal."

The determination reached by the public ecological court is a simple one: to satisfy the demands of the plaintiffs. The materials of the public court are to be sent to the USSR Procuracy in order to bring criminal charges. Material compensation must be made to the physical damage to the people of the Volga.

Of course, the public has not yet learned how to conduct a completely proper trial. People get excited, and they forget that every session must be opened in the traditional manner. Before the verdict was handed down, the very youngest of the plaintiffs, school-girls, burst into the courtroom and warned the adults: "Sit down, sit down—here come the judges!" Oh well... Formality will come, with time. We hope that the defendants will come to hear a sterner phrase: "All rise! Court is in session!"

'Serious' Pipeline Accidents Result in Gas Leak, Oil Spill

*LD1607121690 Moscow TASS in English 1202 GMT
16 Jul 90*

[By TASS correspondent Mikhail Prutkin]

[Text] Tyumen July 16 TASS—Two serious accidents occurred in the Nizhnevartovsk and Novourenгой regions over the past weekend. Rescue teams, helicopters and equipment were rushed to the area, and bridges built through the marshes.

Supplies of more than 100 million cubic meters of gas were stopped on 65 kilometers of the Urengoy-Uzhgorod and Urengoy-Centre 1 pipelines and over 21 million cubic meters were released into the air. The site of the accident cannot be accessed by road, further complicating the problem.

Metal corrosion at one of the oilfields caused an oil leak at the Belozerneft field. The oil caught fire, twenty seven wells had to be shut down and some 400,000 tonnes of valuable raw materials were lost.

"What has happened is hardly accidental," L. Roketskiy, chairman of the Tyumen Regional Executive Committee, said. "The past six months saw 1,132 ruptures in pipelines at oilfields, 15 percent more than over the same period last year. As a result, 300,000 tonnes of oil were lost."

"And who will calculate the cost of spills, pollution of rivers and land? We were in a hurry all these years to produce oil and gas. We saved by not building standby lines, took no care to build roads, did not properly repair pipelines. It looks like it is time to answer for all those reports of completing projects ahead. The grave situation calls for special measures," he said.

Destruction of White Sea Starfish Remains Unexplained

*PM1607141190 Moscow IZVESTIYA in Russian
13 Jul 90 Morning Edition p 2*

[Viktor Fridman dispatch under the "Direct Line" rubric: "And the Secret Remains..."]

[Text] Arkhangelsk—Yet another attempt to establish the cause of the mass destruction of starfish in Dvinskaya Guba in the White Sea has been unsuccessful.

The latest to fail was an interdepartmental commission working under the auspices of the country's Council of Ministers and the USSR Academy of Sciences.

Scientists have rejected a story about increased radiation and pollution in the bay by rocket fuel substances, emitted by a submarine which had an accident in December 1989. But a story from long-term residents, to the effect that containers of mustard gas were sunk in the White Sea in the 1950's, seems to have been confirmed.

Another group of scientists and specialists from Moscow has arrived in Arkhangelsk. Maybe it will manage to find out the secret of the ecological disaster whose scale is growing.

28th CPSU Congress Resolution on Chernobyl

*PM1607083590 Moscow PRAVDA in Russian 14 Jul 90
Second Edition p 3*

[28th CPSU Congress Resolution "On the Political Appraisal of the Disaster at the Chernobyl Nuclear Power Station and the Work To Eliminate Its Aftermath"]

[Text] We, the 28th CPSU Congress delegates, being deeply aware of and sharing the pain of millions of people in Belorussia, the Ukraine, and the Russian Federation who have suffered as a result of the Chernobyl disaster, consider it a national tragedy.

In the conditions of the command-and-administer system the former leadership made major mistakes in elaborating scientific and technical policy in the sphere of nuclear power and protection of the population in emergency circumstances. The Ministry of Power and Electrification, Ministry of Medium Machine Building, Ministry of Health, State Committee for Hydrometeorology, State Committee for the Supervision of Safe Working Practices in the Atomic Power Industry, Academy of Sciences, and USSR Civil Defense showed themselves to be incapable of protecting the lives and

health of the population and were ill-prepared to adopt the requisite priority measures. The available materials on this matter are to be sent to the USSR Prosecutor's Office for examination. The CPSU Central Control Commission is instructed to examine questions concerning the relevant Communists' party responsibility.

The arrogance and irresponsibility of a number of leading scientists and ministry and department leaders involved in nuclear power station development, construction, and operation and their claims about the total safety of nuclear power stations led to an effective absence of a state emergency operations system.

The CPSU Congress notes that the CPSU Central Committee Politburo, USSR Council of Ministers, Ukrainian and Belorussian Communist Party Central Committees, and Ukrainian Soviet Socialist Republic [SSR] and Belorussian SSR Councils of Ministers failed to promptly appreciate the scale of the disaster and its potential consequences and did not take decisive steps to devise and implement a state plan to enable the populace to live in safety on territories contaminated by radioactivity.

All this undermines people's confidence in the party and the state, in the CPSU Central Committee and the government, and diminishes their authority.

Social tension is increasing in the affected areas. It is being exacerbated by the protracted and unwarranted secrecy concerning the Chernobyl tragedy, the contradictory nature of the assessments that are being made, particularly on the medical aspects, and the lack of objective information on the actual state of affairs that is accessible to the population.

The congress admits that the measures that have been taken to eliminate the aftermath of the disaster at the Chernobyl Nuclear Power Station are unsatisfactory and inadequate.

The congress favors:

- special responsibility for Communist leaders in work on the practical implementation of the state union-republican program approved by the USSR Supreme Soviet on the elimination of the aftermath of the accident at the Chernobyl Nuclear Power Station;
- the immediate implementation of exhaustive measures to protect the health of the population living in regions affected by radioactive contamination, the moving of people from danger zones, a display of exceptional concern for children and all citizens, including servicemen, who have been affected while eliminating the aftermath of the Chernobyl tragedy.

The congress calls on people's deputies of all levels of soviets, labor collectives, and public organizations and movements to display maximum concern and attention for the inhabitants of affected areas, for the creation of

proper living and everyday conditions for them, and for the solution of questions of medical, trade, and municipal services.

The congress instructs the new CPSU Central Committee to earmark 500 million rubles from the party budget for health measures for children living on contaminated territories.

We appeal to our country's public and to the world community to participate in the most direct way in solving the multifaceted problems connected with the Chernobyl tragedy and in giving practical assistance in overcoming its consequences.

Belorussia Declared 'Ecological Disaster Zone'

*LD1107193190 Moscow Television Service in Russian
1700 GMT 11 Jul 90*

[From the "Vremya" newscast]

[Text] Belorussia has been declared a zone of national ecological disaster. The republic's Supreme Soviet has charged its permanent representative at the United Nations to make this information known to the world public. The decision was adopted by the parliament after the hearing on the Chernobyl issue was completed.

On the territory of Belorussia the normative and operational distribution acts of union ministries, state committees, and departments cease to be in force in the event of their obstructing the republic's program for eliminating the consequences of the catastrophe.

The demand of the Ukrainian Supreme Soviet to the USSR Government on the closing down of the Chernobyl Nuclear Electric Power Station no later than 1992, is supported.

Belorussia Takes Action on Nuclear Safety

*PM1707084190 Moscow IZVESTIYA in Russian
13 Jul 90 Morning Edition p 2*

[M. Shimanskiy report: "Belorussia—Ecological Disaster Area"]

[Text] Minsk—The Belorussian Supreme Soviet has declared the republic an ecological disaster area. The Belorussian SSR [Soviet Socialist Republic] permanent representative at the United Nations has been instructed to bring this to the world's attention.

The deputies were forced to take this step by the situation in which the republic found itself following the Chernobyl disaster.

There have been differing reactions to this decision by the republic's parliament. In the opinion of certain lawmakers, such decisions should be based on a law governing a special legal regime in such zones. There is no such regime in our country. Unless Belorussia is

recognized as an ecological disaster area by the United Nations, the Supreme Soviet decision will have no legal ramifications.

Here is the opinion of I. Smolyar, chairman of the Belorussian SSR Supreme Soviet Emergency Commission for the Problems of the Chernobyl Nuclear Electric Power Station [AES] Disaster:

"No, we have no law on such situations in the USSR. I think that this should have been discussed at the Congress of USSR People's Deputies and in the country's Supreme Soviet. Somebody has to take the first step, and Belorussia has taken it... We will be working on the status of such areas."

A State Committee for the Problems of the Consequences of the Chernobyl AES Disaster is being set up under the Belorussian SSR Council of Ministers. A national commission on radiation protection for the population is also being set up. An administration to monitor the burial of radioactive waste and to monitor the burial sites will be organized. And, of course, a system of nondepartmental and public monitoring of foodstuffs should be elaborated.

Moscow Agrees To Move SRV Workers From Chernobyl

*BK1607112290 Hong Kong AFP in English 1058 GMT
16 Jul 90*

[Text] Hanoi, July 16 (AFP)—The Soviet Union and Vietnam have agreed to transfer all Vietnamese workers from areas affected by radiation fall-out from the Chernobyl Nuclear Power Plant blast of 1986, the official press said Monday.

Those workers who did not want to be transferred elsewhere in the Soviet Union could opt to return home and receive normal benefits for ending their contracts, QUAN DOI NHAN DAN newspaper said, citing an article by Deputy Minister for Labour, War Invalids and Social Welfare Nguyen Thi Hang.

Mrs. Hang was writing about a recent bilateral protocol for 1991-95 covering Vietnamese workers in the Soviet Union—a total 80,000 men and women, according to official figures.

The newspaper said the two sides would determine the conditions and damages for those Vietnamese workers affected by environmental pollution in the Soviet Union at a meeting in late August or early September.

It did not say if any Vietnamese had fallen ill due to radioactive contamination from the Chernobyl blast in April 1986.

Omsk Authorities Draw Up Map of Background Radiation

PM1607134190 Moscow IZVESTIYA in Russian
13 Jul 90 Morning Edition p 2

[Sergey Suslikov dispatch: "Radiation Map of City"]

[Text] Omsk—On the initiative of the Omsk Gornopolkom [City Soviet Executive Committee] a map of the city's background radiation is being drawn up.

Several weeks were spent collecting factual material. Specially equipped helicopters from a subdivision of the Novosibirsk Geological Survey Administration "probed" the city from the air. Ground-based radiological services worked actively in collaboration with them.

Specialists from Novosibirsk are now analyzing the collected material. The first radiation map of the city will be ready in October. With the appearance of the map there is the hope that it will be possible to get the situation under control: to elaborate a strategy and tactics for combatting the lack of controls, whereby radioactive clinker is used to repair roads or radioactive metal is dumped by the fence of a respectable enterprise, and the contaminated areas are eliminated through the efforts of civil defense and health monitoring units. The oblast prosecutor's office is investigating every case of radioactive pollution.

Findings of Petropavlovsk Radiation Survey

LD1607004990 Moscow Domestic Service in Russian
2330 GMT 15 Jul 90

[Text] A chart showing the background radiation in Petropavlovsk is being created at the initiative of the town executive committee. All the work is being done by specialists of the Neva Geological Production Association. The checks began at establishments catering for children.

The measurements already have produced some unpleasant surprises. For example, training simulators at the Young Aviators' Club, where there is an aircraft cockpit and an Ilyushin instrument panel, were found to be radiating 1,000 microrentgens per hour. Dosimeters at two general education schools also revealed some alarming information. Instruments that incorporated radiation sources had been used there during civil defense exercises.

All the dangerous objects were removed immediately, of course, but that is not enough. A check for gamma rays must be carried out throughout the town, both from the air and on the ground. This will make it possible to get the situation under control, and to draw up strategy and tactics for dealing with the negligence with which enterprises and departments sometimes treat radioactive waste. Ultimately, this will make it possible to maintain a natural and quite low background radiation of 9-10 microrentgens per hour in the Karelian capital.

Transcaucasian Railroad Ships Radiation-Contaminated Meat

904H0243A Moscow GUDOK in Russian
24 Jun 90 pp 2-3

[Interview with E. Freyman, head of the Radiation Hygiene Laboratory, VNII [All-Union Scientific Research Institute] of Railroad Hygiene; V. Chiburayev, chief of the Sanitary Prophylactic Main Administration of the USSR Ministry of Health and deputy chief sanitary inspector of the USSR; and A. Povalyayev, lead scientific associate, All-Union Scientific Research Institute of Agricultural Radiology, by correspondent L. Kizilova, followed by the correspondent's commentary: "With Cesium Sauce"]

[Text] After the Chernobyl catastrophe, 10,000 tons of radioactive meat were dispersed over the country.

"It has been established that in January and February 1990, four five-car refrigerated units were sent on the Transcaucasian Railroad at the request of the Gori Meat Combine in the Georgian SSR, in violation of the procedure in force, for loading and temporary storage before departing for disposal of the radiation-contaminated meat which had arrived in 1986 from the Gomel and Kalinkovich Meat Combines in the Belorussian SSR.

"On 17 January 1990, the USSR Ministry of Railways categorically prohibited the Transcaucasian Railroad from accepting the freight cited for shipment and drawing up transport documents without coordination with sanitary and veterinary authorities, as well as without the consent of the new consignees to accept it.

"However, in spite of the ministry's directive and in violation of the regulations on consumer goods shipments adopted by the USSR Council of Ministers decree No 888 of 25 July 1988, transport documents were drawn up by the Transcaucasian Railroad's Gori Station for the loaded refrigerator car units and they were sent to the Gomel and Kalinkovich Meat Combines in the Belorussian SSR without their consent.

"The railcars that were dispatched were stopped by the Ministry of Railways on the route of travel. The radiation and organoleptic tests that were conducted by a commission on 5 and 6 March showed that the meat does not constitute a radiation danger when it is stored, processed, or transported if the requirements established are observed, but it was spoiled because the conditions for storage were violated and it is subject to burial.

"In accordance with the decision adopted at the conference of Deputy Chairmen of the USSR Council of Ministers V. V. Nikitin and V. Kh. Doguzhiyev (minutes No VD-860 of 10 March 1990), the refrigerator units with the meat were sent to the Vilcha Station on the Southwestern Railroad addressed to the 'Pripyat' NPO [Scientific Production Association] for burial.

"The actions by shippers in the Georgian SSR and managers of the Transcaucasian Railroad needlessly put the health of the railroad workers directly involved in the shipment of this meat at risk and led to the obstruction of train traffic on the Tbilisi-Khashuri section by groups of people and other negative consequences. The rolling stock idle time and inefficient shipments resulted in significant unproductive expenditures." (From the Ministry of Railways Collegium decision)

* * *

Just what happened on the Transcaucasian Railroad? What kind of meat became the reason for conflict and led to a strict order, whose lines have been quoted here?

It is possible that an interview with specialists from three departments—railroad, medical, and agricultural departments—will help to answer these questions.

[Kizilova] What is the significance of the radioactive contamination of the meat sent from Georgia? What kind of danger did it constitute when it was shipped?

[Freyman] The level of the meat's radioactivity was somewhere in the range of 10 to 50 times higher, and in some places 100 times higher, than the background readings. This cannot cause radiation sickness, but exposure in such doses is not desirable, all the same. There is a term—"unjustified exposure of personnel to radiation." This is what took place. Although in very small doses.

They loaded the meat at the Gori Station and did not send it for a month. None of the personnel had individual dosimeters. No one measured this dose.

[Kizilova] But how could it happen that the contaminated meat was shipped to the Georgian meat combine for processing?

[Freyman] Recommendations from the Gosagroprom [State Agroindustrial Committee], which were coordinated with the Ministry of Health, provide for this meat to be used: they mix it with "clean" meat, reducing the substance to VDU—temporarily tolerable levels.

[Kizilova] What magnitude is the VDU?

[Freyman] This is information for official use, I believe. I cannot cite it. Ask the USSR Ministry of Health—perhaps they will tell you.

[Kizilova] The managers of the Transcaucasian Railroad have been punished for "independently" shipping the meat. In your opinion, how should they have proceeded?

[Freyman] They should have been following the Gosagroprom recommendations in the republic and used the product for its intended purpose. But they stored the meat for 3 and a half years (after Chernobyl), violating the conditions for storage, and it spoiled and became unfit for food. It should have been buried in Georgia for this reason. But they opposed this in the republic...

[Kizilova] But after all, this is quite understandable, even from a purely psychological point of view... Why must the meat be buried in the republic instead of being sent to the special disposal sites in the 30-kilometer zone?

[Freyman] Yes. This is understandable...

[Kizilova] What was the reading of radioactive substances in the meat?

[Freyman] The highest reading in separate tests was 10^6 curies per kilogram.

[Kizilova] It is doubtful that this figure will mean anything to the uninitiated.

[Freyman] Yes, it must be compared with the VDU. I think the USSR Ministry of Health will explain everything in detail.

[Kizilova] I understood from a conversation with a VNIIZhT [All-Union Railroad Transport Scientific Research Institute] that the VDU readings on the meat are data for official use.

[Chiburayev] That is not true at all. All the secrecy has now been removed from these data.

The first VDU's for foodstuffs were introduced on 30 May 1986 and were set at 1×10^7 curies per kilogram. This was done in connection with the accident at the Chernobyl AES. I think the decision was correct.

P. Burgasov, the chief sanitary inspector of the USSR, approved these VDU's. Later on they were made somewhat tougher. The following standards were introduced on 15 December 1987: 5×10^8 curies per kilogram for pork and lamb and 8×10^8 curies per kilogram for beef.

A year later the permissible levels were reduced for all products, but they remained unchanged for meat. The question of bringing the VDU down to the international level is being discussed today. Presumably this will be done in a month.

[Kizilova] And what are these international standards?

[Chiburayev] According to the FAO—the UN Food and Agriculture Organization (these are recommendations, not standards!), they are 600 becquerels per kilogram, which is equivalent to 1.6×10^8 curies per kilogram.

[Kizilova] So our VDU's for meat are two to three times higher than the international standards?

[Chiburayev] Yes.

[Kizilova] In a case such as this, do you think it is necessary to produce meat in contaminated territory and ship it to the country's meat combines?

[Chiburayev] I think if the decision were taken now, meat would not be shipped anywhere at all from contaminated territory.

But at that time, after the accident, the Gosagroprom was unprepared for this: it did not have the proper instruments or the proper organization in its activities...

[Kizilova] What do you mean?

[Chiburayev] It was not clear what to do with the meat. By the way, I am deeply convinced that introduction of the temporarily tolerable levels was a sound measure. Though at that time (in 1986), the instructions for people in the event of a nuclear explosion were semisecret and narrowly departmental in nature. Nowadays they have become the property of all the services and departments involved in a situation such as this, and the press should take part in popularizing them.

But at that time, I repeat, no one knew how to act correctly under the specific and very difficult conditions.

[Kizilova] You believe it is wrong to ship "contaminated" products out of the zone, all the same?

[Chiburayev] Allowance could have been made for such a mistake in that situation; it cannot be considered a crime. There was a great deal that was not foreseen there because of ignorance, generally speaking.

Another side to this question is assessing the Georgian workers' actions in shipping the meat without coordination. They acted incorrectly. The meat was kept in insulated compartments. But they shipped it, and it could have reached a consumer's table. But after all, aside from containing an RV [radioactive substance], it was simply spoiled, which could have led to serious consequences.

[Kizilova] But how should they have proceeded there, in your opinion?

[Chiburayev] In a parliamentary manner.

[Kizilova] That is?

[Chiburayev] They should have put the question before Nikitin (the deputy chairman of the USSR Council of Ministers and chairman of the State Commission on Food). This is the way they proceeded in a similar situation in the Belorussian Council of Ministers, for example: they estimated their stocks of contaminated meat, the Ministry of Health gave its recommendation, and 600 tons were buried.

If there is an area for disposing of radioactive waste in Georgia and it has sufficient capacity, it should have been buried there.

[Kizilova] How much "contaminated" meat left the zone and how much was shipped back for burial?

[Chiburayev] I do not know if the Gosagroprom has this information. I can say that 0.1 percent (of the total volume) of meat now being produced in Belorussia contains radioactive substances higher than the VDU. What should we do? Manage the livestock a little better,

give them clean fodder and take the radioactive substances out of their organism.

[Kizilova] As I listen to you here I keep wanting to ask you an amateurish—or perhaps naive—question. It occurred to me a long time ago, on 22 March, when I listened to the speeches at the Ministry of Railways Collegium session concerning Chernobyl. In particular, it was mentioned there that the deliveries of potatoes from the contaminated zone to other regions of the country were being continued last fall... Now the discussion has come to meat... And I wondered: couldn't the resources really be found in our vast country to make up for those agricultural products which have been and continue to be produced in the contaminated zone? Are we really that poor? Wouldn't it be better to discontinue all agricultural activity in these areas right away?

[Chiburayev] If they continue to ship products containing radioactive substances above the established standard, this is an outrage and a crime.

[Kizilova] But what can you say about the use of meat that exceeds the VDU in food?

[Chiburayev] The instructions providing for this were drafted by the Gosagroprom and approved by the Ministry of Health in 1986. This is a natural process of "thinning the contaminated meat"—bringing it below the standard. This procedure was chosen as a temporary measure. Later on we decided to discontinue this. But in 1988 the Gosagroprom issued new instructions they did not coordinate with us. They were similar to the previous instructions, but adjusted for the new, revised VDU's.

We adopted the decision and wrote to Nikitin in the USSR Council of Ministers in October 1989, asking that meat no longer be sent out of the contaminated zone.

I return to the accident once again. It should be noted particularly that the country was not prepared at that time to solve a number of problems, including how agriculture should be conducted on the contaminated territory. We hoped that these problems would be resolved in time. We have revised our position since then. But the Gosagroprom, with the government's support, has not changed its psychology. As before, its inspection service is not equipped with the necessary instruments and the sanitary and epidemiological stations, instead of the Gosagroprom, are forced to inspect the products.

[Kizilova] All the same, what do you think about the advisability of growing agricultural products on contaminated territory?

[Chiburayev] I think if we were starting from the beginning today, a cross would have been placed on certain agricultural lands. This question is reflected in the new state program to eliminate the effects of the accident.

[Kizilova] Couldn't we certainly have managed without the meat which exceeds the VDU?

[Chiburayev] What do you think is worse—not receiving enough protein in the form of meat or receiving it from meat with a contamination level higher than the VDU?

[Kizilova] I personally would prefer not to receive enough protein, to starve for a while. Shakespeare gave a good answer to this question: "It is better to reconcile oneself to a known evil than to seek to escape to one that is unknown."

[Chiburayev] But most of the independent specialists would answer this way, I think: it is better to eat the meat which contains radioactive substances within the limits of the VDU's in effect. After all, all of the products we use contain this natural component in one quantity or another.

I repeat: our position has changed drastically since 1986, and this was reflected in the letter to Nikitin.

[Povalyayev] This is the story. When they evacuated the population of the 30-kilometer zone, they took the livestock out as well. It was May, and there was not enough fodder stocked up for winter yet. In conformity with the law of a sandwich deteriorating with the butter, the first day the livestock were taken to pasture was 26 April. The animals had grazed for a week before the evacuation. What was to be done? We suggested that the animals be fed with clean fodder for a month and a half before slaughter in order to remove the radioactive substances that had accumulated from their organisms. But the economic services locally answered: we cannot provide for this.

[Kizilova] And what was done with the livestock?

[Povalyayev] They were slaughtered. The meat from 60 to 70 percent of them was fit for sale and the remainder had varying degrees of contamination. In half of this meat the level of radioactive contamination dropped to the VDU over a period of time—because of the decay of short-lived radioactive elements (this period is 8 days for iodine, for example). In the rest of it, the cesium was retained—higher than the VDU.

They put this meat in cold storage (in Gomel, Minsk, and so forth).

[Kizilova] And what happened to it ultimately?

[Povalyayev] Roughly 10,000 tons of it went throughout the country with instructions for its preparation.

[Kizilova] That is, it went for processing and sale?

[Povalyayev] Yes, although this meat exceeded the VDU, it was fit for use.

[Kizilova] And specifically where was it sent?

[Povalyayev] Where did it go in 1986 and in what quantity? That is hard to say. It was processed everywhere, as it is supposed to be.

[Kizilova] But where is the guarantee of that? Who kept an eye on this?

[Povalyayev] In the production process it was the veterinary services (radiologists, specialists in contagious diseases, and so forth) of the USSR Gosagroprom, and in the trade network it was the sanitary services.

In some oblasts and republics, they were a little apprehensive about this meat, and in some cases they decided to wait before selling it, keeping it in cold storage for a couple of years. In Georgia, the contamination of this meat (over 300 tons) was three or four times above the norm, but it was not dangerous for shipment.

[Kizilova] How do you explain the meaning of the following sentence from the Ministry of Railways order: "The actions by shippers in the Georgian SSR and the managers of the Transcaucasian Railroad needlessly put the health of the railroad workers directly involved in the shipment of this meat at risk..."?

[Povalyayev] This statement is unsubstantiated medically.

[Kizilova] What should they have done with the meat in Georgia, in your view?

[Povalyayev] They should have looked at the veterinary regulations to see what is stated there: any product should be passed by the veterinary service. If the veterinary service had prohibited the meat's shipment, they should have gone to the Veterinary Main Administration under the State Commission on Food. And it could have given instructions where to ship it.

[Kizilova] How much meat of this kind was left in Georgia?

[Povalyayev] According to information as of March, 220 tons were left in the Batumi combine, but it has already been taken out.

[Kizilova] And in other parts of the country?

[Povalyayev] Roughly 3,000 tons were left in Belorussia. They are making a special burial area on the basis of ensilage structures; they want to bury it in the 30-kilometer zone. It will not go into production.

[Kizilova] How much "contaminated" meat remains in business now, so to speak?

[Povalyayev] Some 900 tons—essentially this is not meat. It is being processed for technical needs and bone meal for fattening livestock.

[Kizilova] A letter from G. Sergeyev, deputy minister of health, to V. Nikitin, deputy chairman of the USSR Council of Ministers, on 24 October 1989 states: "...I draw your attention to the fact that the 'Recommendations for the use of meat raw material containing radioactive substances higher than VDU-88' (No 437-1 DSP of 3 July 1988) were approved by V. N. Poletskov,

deputy chairman of the USSR Gosagroprom, and were not coordinated with the USSR Ministry of Health."

[Povalyayev] We cannot coordinate everything with the Ministry of Health. However, the use of this meat was coordinated. We simply retyped the recommendations in effect earlier and added the new VDU's. Meat with radioactive substances higher than the VDU has not been released to the trade network since November 1989.

The Correspondent's Opinion

Outside of the official framework of the interview, Aleksey Panteleymonovich Povalyayev tried for a long time to convince me that the danger of living in the contaminated zone had been exaggerated by ignoramuses, that the 35-rem concept was completely humane, and that there was no point in resettling people from the contaminated territories. They simply need to be "taught to live under these conditions." Do not drink the milk, process it into butter. Adhere to the recommendations for "Managing a subsidiary farm in regions of radioactive contamination," issued in 1989 by the Agropromizdat.

In particular, they contain this advice: "Do not scatter firewood or peat about a room," "Do not enter a room in your work clothes," and so forth.

In general, A. Povalyayev, who was one of the authors of this instruction booklet, believes that the state program to deal with the aftereffects of the Chernobyl accident was a mistake, and that it is pointless in investing so much money in it. Moreover, he said, if the effect of small doses of radiation on a person still has not been established by the world's scientists, it means there is no such effect. "However, in addition to the benefit, radiation can bring harm as well." This is how harmless they consider the effects of radiation in the Agropromizdat work mentioned.

Should we be surprised after this that for four years (but not for a brief period after the accident), the country's people have been fed with meat prepared by a semisecret technology with radiation contamination several times higher than international standards!

Perhaps those who were "a little apprehensive" and left the meat in cold storage—and even let it rot—were correct. And thank God! But then, they did not eat it.

They disobeyed the order in Georgia and shipped the meat without permission. But how many orders and

instructions which they now modestly call "mistaken" and which they hid from the public were followed in the country for four years? Can the government be trusted after this?

Instead of taking steps right after the accident, they take them four years later. And this is no less expensive than if "a cross had been placed on certain territories" right away and the people moved out of the zone.

It can be said that everything is clear after the fact, they say. Could the extent of the tragedy have been foreseen? It probably could have, all the same. If there had not been a monopoly on the departments' information. If they had not been in a hurry to report to the center that everything was all right, diligently muffling the echoes of Chernobyl.

Let certain scientists blame the persons who are supposedly increasing the panic now of being ignorant. Time will pass and the truth will crystallize in its unconcealed nakedness.

But the facts remain facts even now. Here is a list of the products to which they have added the "contaminated" meat in processing. Do not eat them, just in case.

Canned food: "Zavtrak turista," "Myaso po-litovski," "Goviyadina izmelchennaya," "Svinina pryanaya," "Myaso rublenoye v zhele," and a group of sausage meats.

Sausages: boiled sausage, frankfurters and small sausages, semismoked sausage, products made from pork—salted pork fat, pate, liver sausage, blood sausage, zeltsy, and jellies.

And one more fact. Without waiting for a decision at the All-Union level, Georgia has adopted the VDU for meat which meets international standards.

* * *

When this material was being readied for publication, a refrigerator unit with meat from Georgia, which had been sent for burial in the 30-kilometer zone, was still standing on the border at the Vilcha Station on the Southwestern Railroad. It is not clear what happened to it after that, since the Belorussian Council of Ministers decided not to allow the "contaminated" meat into the zone.

As the Southwestern Railroad management said, there is the threat that the meat will defrost, which is fraught with new problems. The criminal miscalculations for four years are turning into today's problems.

EUROPEAN AFFAIRS

European Parliament Commission Criticizes EC Environmental Policy

90WN0178A Luxembourg LUXEMBURGER WORT
in French 16 Jun 90 p 3

[Speech by Luxembourg Deputy Viviane Reding before European Parliament on 13 June]

[Text] Friday, Luxembourg Deputy Viviane Reding presented to the European Parliament the Political Commission's report on the headquarters of a future European Environmental Agency.

During the debate, serious accusations were addressed to the EEC commission and Council of Ministers, whom Parliament members criticize for serious ineffectiveness in terms of environmental policy.

The following is the text of the speech by Viviane Reding during the debate on the headquarters of the Environmental Agency.

Lack of Effectiveness

Parliament's Environmental Commission has drafted a report in which it harshly criticizes both the Commission and the Council. In fact, as designed by the Commission and the Council, the European Environmental Agency in no way meets the criteria for effectiveness and supervision intended by Parliament. Parliament has even doubted the usefulness of such an agency, whose competence would scarcely be any greater than that of the Commission at the present time. In addition, the Environmental Commission intends to initiate proceedings for failure to abide by established procedure on concerted action. In other words, insofar as the Environmental Agency is concerned, our Parliament and other institutions are at loggerheads.

However, it is not only these matters of substance which the Political Commission had to handle. Its mission was to analyze the issue of the headquarters of the Environmental Agency. In this area also, it would appear that the views of the Commission and the Council, on the one hand, and Parliament, on the other, do not agree.

Precise Specifications

Parliament is of the opinion that the headquarters of the future agency must never be separated from its operations. Indeed, it is in terms of the criteria for the Agency's smooth operation that precise specifications must be drawn up and the ideal site chosen. Our goal is to have an Environmental Agency that operates under optimum conditions; the site should be chosen in terms of such effectiveness.

The Commission itself confined itself to presenting a few technical criteria that are totally inadequate. Nor does

the Council seem to have a single goal in mind: satisfying some candidate (meaning some country!) in order to "hand out" headquarters.

The Political Commission cannot agree with this manner of proceeding, which is why—and even before the Dublin Council—it asks that the site chosen meet: demands for geographic and functional decentralization of Community institutions; development of relations between citizens of the Community and its different administrations; and ease of communications between the Agency and its correspondents, as well as between the Agency and Community institutions, particularly the European Parliament and its organs.

Parliament Says "No"

The Political Commission wants the Agency to have a general vocation and cover all domains relating to protection of the environment, without giving priority to any type of pressure on the environment or any particular geographic sector. This is why it is asking the Commission to draw up specifications and make them public, along with the different dossiers from candidacies submitted to it.

In other words, Parliament is saying "No!" to political pressure exerted because of pressure from the Council and "Yes!" to a real environmental policy. It is on this basis that the Political Commission, which unanimously approved this report, is asking you to support the resolution submitted to you.

BELGIUM

Flemish Liberals Develop Environmental Program

90WN0109Z Brussels KNACK in Dutch
2 May 90 pp 18-19

[Article by Peter Renard: "A Blue Idea About Green"]

[Text] On Saturday and Sunday, the PVV [Party of Liberty and Progress] will discuss the liberal environmental program. A preview.

The PVV environmental program is based on two basic points: the bureaucratic government approach has failed and we must strive for a balance between economic growth and ecological development. Hence, the Flemish Liberals also want to limit the government role with regard to the environment. Because, according to their argument, the ever increasing meddlesomeness of the government has failed to produce positive results. On the contrary: all the regulations, rules, laws and decrees were unable to prevent the situation from being what it is: painful.

The failure of the centralized bureaucracy as an all-knowing deity is a structural fact, and consequently the government will also be unable either today or tomorrow to accumulate the knowledge necessary for a rational and efficient environmental policy. The government lacks

the necessary flexibility for that: furthermore, its policy is not determined by objective criteria but by political game rules and is thus a reflection of the power of the respective pressure groups. Government intervention not only puts a break on economic activity, it also falsifies competition at the ecological level (in favor of large enterprises which maintain a specialized environmental staff). According to the PVV, the role of the government could be limited to determining the goals and creating a climate in which the market mechanism can go its own way with as little disturbance as possible.

Unlike the (political) Greens, the PVV believes that economic growth is the best guarantee for a cleaner environment. And in an obvious next step they argue that it will be possible to reduce the basic pressure only when production becomes more environmentally friendly and thus becomes more oriented toward the recycling of raw materials. Given that environmental investments are expensive, economic growth is a condition for a shift in the direction of less pollution.

However, less government and more economic growth are not enough. The sense of responsibility of the citizens and industry must be sharpened through financial stimuli. Those who produce waste will have to pay for the reprocessing; those who make attempts to limit their amount of waste will be granted higher investment deductions; bottles and drink cans will be subject to a deposit.

In its 150 page long basic document, "Choosing or Losing," the PVV follows the timetable of the Dutch environmental plan (three phases: 1995, 2000, and 2010). But the Flemish program is substantially less far-reaching than the plan proposed by Dutch Liberal Ed Nijpels, who broke his political neck on it. Guy Verhofstadt's Flemish Liberals do not want to push that far. Like all the other parties, the PVV wants to embroider a small green border around the traditional party colors as soon as possible. In the case of the PVV this has led to a serious looking document with an interesting overview of the environmental situation in Flanders and the world, produced—fully according to party philosophy—by a private firm.

Right To Pollute

The main ingredient of the liberal environmental concept is that love of the environment goes through the purse. Inappropriate environmental behavior is not rewarded in and of itself, but neither is it punished. The PVV is making an effort to couple economy and ecology, and the entrepreneurs must also be satisfied. Given that people believe in something—let us say the environment—only when there is money involved, the party is proposing an economic-fiscal system in which environmental investments will improve competitive positions and will be rewarded by the government. Those who are environmentally friendly can also become rich to boot.

And in such a system, repressive measures by a government, which after all did not do so well itself, would not fit.

On the contrary, according to the PVV program it is private enterprises which will protect us from further environmental disaster. Consequently, a substantial share of the government tasks in the environmental sector are allocated to them. In an extreme concession they allow that the (selective) pick up of household waste could be entrusted to intermunicipal administrations, but for cleaning up the black points of industrial waste and the purification of all Flemish waste water they turn to the private sector.

Liberal thought goes even a step further: there is also talk of tradable emission rights, although during the first phase they would be limited to water purification. This reasoning involves the setting of global pollution levels per water purification plant. Next, this figure is divided among the respective companies connected to the sewer network and thus to the water purification installation. If one of the companies makes an effort to purify its own waste water, then it can sell its pollution rights to another company.

The plan also includes the ideas of fiscal circles surrounding residential centers previously launched by Guy Verhofstadt. Those who live farther away from developed areas will have to pay for it. The closer people live to the center of a municipality or a city, the less registration costs and the less land taxes they will have to pay, and the more they will be able to deduct their mortgage payments from their personal taxes. If essential and public services are also charged at the "real cost price," then people living in remote developments will have to pay more for their gas, water, electricity, or cable connection, and postal rates as well as the price of household waste pick up would go up and thus lead to what is called spontaneous concentration. Following the same logic, companies would have to pay for the construction of their sewers if they do not purify their own waste water and if they locate in an area without sewers.

Sacred Cow

The liberal environmental plan includes a number of interesting lines of thought, but it is also very sensitive to trends. This is expressed specifically in the strong distaste for everything that is government related. It does not say so, but it sometimes seems as if those nice sheep, the companies, are only being misled by the government which has falsified the competitive situation through all possible kinds of intervention and which, through all kinds of cunning tricks, has made clean industry impossible. In this respect they like to point—and rightly so—to the Flemish Water Purification Company (VMZ) which, because of this far-reaching politicization, is indeed unable to present very uplifting results. Obviously, there is no mention in the report of the PVV share in that abhorrent appointment policy. Neither is there any reference to the Official Flemish Waste Company

[OVAM], which is also subject to a great deal of criticism, but which as government institution boasts a respectable company audit.

Other accents also betray the latest environmental fashions. Thus, a remarkably large amount of attention is given to water purification and the agricultural sector. Nobody wears a high hat with water purification in this country, and it is obvious that major investments will have to take place (and thus that a great deal of money can be made). Neither can it be denied that agricultural industries, whether land related or not, are responsible for major environmental disturbances. But it is typical of a liberal program that the accent falls there, and not first of all on the enormous amount of industrial pollution (these are international problems and they endanger the competitive situation). The solutions suggested for agriculture are presented in the imperative mood, and are followed as a final bombshell by an ultimate attack on the position of the Land Company which, indeed, is acting more and more like a super-parastatal company oriented toward defending the agricultural interests.

In terms of industry, the PVV wants negotiations, or they want to strive for, or they talk more about exemption from levies than about the levies themselves. For example, there is no word about the near-monopolies in the electricity sector, except for the fact that the PVV continues to stand behind nuclear energy. The plan has hardly anything to say at all about the kind of stick the government needs to keep behind the door for unwilling industrialists.

In one area the document is less sensitive to fashion: when it involves a reduction in the use of automobiles. Alas. Because, aside from the obligatory sentences about carpooling and more attractive public transportation (no sinecure following the policy of, among others, the Liberal Herman De Croo), the sacred cow is not touched. Of course, the PVV also pleads for tax deductibility for the use of public transportation to travel between home and work. But aside from that, automobile transportation is stimulated by a five frank reduction of the levies on leadfree gasoline, by additional infrastructure, and by recovering the cost of road transportation through car stickers for foreigners. And the solution to absorbing carbon monoxide emissions is to plant more trees.

The question is how much this environmental program is worth. If it is taken seriously by the PVV then it would mean a real turnaround in a number of areas for a party which has worried least about the environment. Perhaps this could best be tested by comparison to the activities of PVV Minister Louis Waltniel who is responsible for regional planning. Like his liberal predecessors Pede and Beysen, he does not conduct what one might call a progressive green policy. And the question is whether this will change rapidly. Certainly if the idea of subordinating regional planning to a structural plan once again turns up in the liberal program. The regional plan, the only handle for the environmental movement, is put at risk. A more flexible approach to regional planning may

not lead to more trees and more nature, but probably to more industrial zones and residential areas. But were there not enough of them already according to the Liberals?

FEDERAL REPUBLIC OF GERMANY

Kruemmel Nuclear Power Station Leak

LD2307170290 Hamburg DPA in German 1556 GMT
23 Jul 90

[Excerpt] Hamburg (DPA)—Radioactive waste water has run out through a leak in the cooling system of the Kruemmel Nuclear Power Station (Schleswig-Holstein). According to the Kiel Social Ministry there is no danger for people in the area. The authority for reactor security assessed the incident as an accident of the highest category, "S" (immediate report), and informed the environment minister in Bonn. [passage omitted]

Bonn First To Set CO₂ Emission Reduction Goals

90WN0166C Duesseldorf HANDELSBLATT in
German 15-16 Jun 90 p 6

[Article by rei: "Carbon Dioxide Emission To Be Reduced by One-Fourth by the Year 2005"]

[Text] By 2005, carbon dioxide emission in the FRG is to be reduced by 25 percent. This target has been adopted by the Federal cabinet. Carbon dioxide is considered to be a greenhouse gas, it warms the earth atmosphere.

The FRG is the first major industrialized country to commit itself to a quantified target value, Klaus Toepfer (CDU) [Christian Democratic Union] stressed before the press. The FRG annually produces roughly 720 million metric tons of carbon dioxide (CO₂), which is generated in any combustion process. An interministerial team under the direction of the Federal environmental ministry (BMU) shall work out the implementation of the cabinet resolution. At the same time a study shall determine which regulatory and economic instruments are to be considered for this. Toepfer particularly emphasized a levy or tax on CO₂ emission as an effective vehicle.

The basis for the team's considerations are calculations obtained from the BMU. According to these, households and small consumers could contribute the greatest reduction effect: 75 million tons or 10.5 percent. Compared to 1987, the base year for the calculations, industry could emit 5.5 percent less carbon dioxide in the year 2005. Toepfer's experts determined that the traffic sector would account for a potential reduction of only 1.8 percent. Toepfer explained the quota differences to be related to the various growth rates in the different sectors. In the case of relatively constant quantities, such as households, it is possible to achieve the greatest successes. In the growing industry a stabilization of carbon dioxide emission means that energy utilization is

more efficient. The environmental ministry has based its concept on an annual growth of the economy of an actual 2.4 percent. The environmental experts are also assuming that the fraction of nuclear power plants (nuclear power plants produce no carbon dioxide) will remain constant. However, shifts are to be expected in the area of fossil energy sources.

The fraction of natural gas, which is considered to be particularly nonpolluting in this respect, will increase substantially at the expense of crude oil. The bituminous coal portion will remain the same, on a correspondingly low starting level, and the percentage of lignite (which generates a particularly high amount of CO₂ during combustion) will also decrease, Toepfer projected. He stressed that the potential of renewable energy sources should be exploited as quickly as possible.

Toepfer called the reduction of carbon dioxide emissions another building block in the FRG's concept for protecting the earth's atmosphere. The other two components of the concept are the ban on using fluorocarbons and halogens as well as the increase of funds to protect the rain forest, which the Federal cabinet passed two weeks ago. The SPD's [Social Democratic Party] environmental policy spokesman, Harald B. Schaefer, stated that Environmental Minister Toepfer had once again failed in his announcements. In the face of the opposition of the Economic Minister H. Hausmann (FDP) [Free Democratic Party] he had not succeeded in concretely determining the reduction in CO₂ emission. Schaefer questions the firm commitment to the set target.

FRANCE

Decision on No-Phosphate Detergents

90WN0125A Paris LES ECHOS in French 30 May 90
p 8

[Article by Denis Cosnard: "France Is Heading Toward the Removal of Phosphates From Detergents"—first paragraph is LES ECHOS introduction]

[Text] The government has decided to limit to 20 percent the amount of phosphates in detergents, to take effect within the year. But the controversy continues on the possible toxicity of their substitutes.

We will not be able to suspect Brice Lalonde of chauvinist partiality. Having had to arbitrate the conflict which, for several months, has Rhone Poulenc opposed to Henkel, the German chemist, in the matter of no-phosphate detergents, the minister of environment has inflicted a serious blow to the French public group. Relying on a 184-page report submitted by Roland Carbiener, a Strasbourg professor specializing in ecology, Brice Lalonde announced several decisions favorable to the development of no-phosphate detergents. These products are being extolled by Henkel (an

important producer of these detergents) and vilified by Rhone Poulenc (a manufacturer of phosphates for detergents).

The principal measure, taken in agreement with the Soap and Detergent Industries Association, is to reduce to 25 percent, as of 1 January next, the amount of phosphates in detergents; then, to 20 percent as of 1 July 1991. In its first stage, this decision will only have limited impact on the industries: only one or two detergents currently contain more than 25 percent phosphates, the average amount varying around 22 percent.

A Concern for Europeanization

But Brice Lalonde does not intend to stop there. After shifting from a situation of total freedom to a partial limitation in the amount of phosphates, the minister wants to outlaw these products completely, as in Switzerland and Norway. He indicated yesterday: "I want to remove phosphates from detergents rather quickly, but I would like the decision on this matter to be European."

To prepare the manufacturers for this important change, Brice Lalonde and the professional association have decided to force each of the leading manufacturers to market at least one no-phosphate detergent beginning next January. In fact, the leading groups are already marketing one no-phosphate brand: Procter has Ariel; Unilever, Skip; and Colgate has had Genie gel for the past one year and a half.

While hoping for the rapid disappearance of phosphates in detergents, Brice Lalonde has admitted that much was still unknown about the phosphate substitutes currently being used and their effect on the environment. Therefore, to shed some light on the situation, the minister announced the creation of a "Pilot Environment-Detergents Committee" chaired by former INRA [National Institute for Agronomic Research] President Jacques Poly. This committee will launch a research program on the effects of the substitutes; it will have a budget of FR45 million over a three-year period.

Those are so many decisions which do not seem as though it will put an end to the controversy begun by Rhone Poulenc, consumers' associations and the Ministry of Environment.

The Carbiener Report Challenged

Thus, as early as yesterday, Rhone Poulenc officially challenged the validity of the Carbiener Report on which the minister based his decision. Moreover, the former ecologist leader himself seems to have begun to have misgivings about the validity of the Carbiener Report, to the extent that he asked four scientists who have done research on water systems to give him a kind of counterexpertise. As it stands, these experts are contesting some of Professor Carbiener's results.

On the whole, all agree that, when they are released in the water, phosphates in detergents act as super fertilizers

responsible for the proliferation of algae and the disappearance of some fish. On the other hand, they do not accept Roland Carbiener's assertion that "none of the substitutes poses a problem of ecological toxicity."

Citing the supposed toxicity of certain liquid nophosphate detergents, or of certain mixtures like the NTA [nitrilotriacetic acid], Professor Aubert (CERBOM [Study and Research Center for Biology and Medical Oceanography]) believes that "it is far from obvious. Contrary to what Carbiener asserts, enough time has not yet elapsed to enable us to judge." The debate seems far from over.

Environmental Plan for Next Decade Detailed

90WNO162A Paris LE MONDE in French
16 Jun 90 p B9

[Article by R.C.: "A 'Green Plan' for France in the Year 2000"—first two paragraphs are LE MONDE introduction]

[Text] Breaking away from "ecological pottering," Brice Lalonde is proposing to provide outside services to the Ministry of Environment and to double funds within 10 years.

Secretary of State of the Environment Brice Lalonde was to submit his "national environmental plan" on Friday 15 June. The result of this "green plan," which defines policy for the next decade, should be an almost twofold increase in the expenses of the nation—state, communities, businesses, and households—committed to environmental protection (from Fr80 billion in 1990 to Fr155 billion in the year 2000). It should also offer the opportunity of thoroughly restructuring the ministry in charge of the environment, with the creation of outside services staffed with ad hoc civil servants and the forming of a French environmental institute which would serve as a relay to the European Environmental Agency. The Lalonde plan should be debated in Parliament in the fall.

Two-thirds of the document which introduces the "green plan" are devoted to the review of the environmental policy carried out since the creation of an ad hoc ministry in 1971. It is a harsh review. Compared to its northern neighbors (FRG, the Benelux, Denmark, and Great Britain, to mention only EEC countries), France appears as a "low economic pressure zone" with a "15-year lag." The reports points out that "the administrative measures implemented during the crisis years have seen better days and we must shift to a new phase."

Despite a hint of self-satisfaction ("For the past two years, France has once again been taking the initiative in environmental matters."), the minister acknowledges that the legal arsenal available to the state for implementing its policy is "complex, partitioned, difficult to identify, sometimes contradictory and too often inoperative." In fact, "neither the law, poorly applied, nor economic incentives, nor penal sanctions, which are too

weak, succeeded in lastingly and thoroughly integrating environmental concerns into French society."

An almost constant budgetary deterioration has been added to this fundamental weakness. Between 1980 and 1990, the civilian budget of the state increased by 80 percent, while the financial package reserved for the environment dropped by one-third (from 0.1 percent of the budget to only 0.06 percent). A drop in budgetary resources, a lack of civil servants and administrative ultra-conservatism, all of that lead to "an undeniable weakness among all the players likely to affect the environment."

Efforts Concerning Air and Water

The absence of training networks lead to making the environment "a minority and marginal concern," without outlets for the young. Moreover, reduced to its bare essentials, the ministry buried itself in a detrimental "nationalism." On the whole, the environment in France remains the business of the state and is therefore not integrated into society.

This situation appears the more regrettable as France, with its developed tangible assets, landscapes and natural spaces, is not that badly off. The report points out that France has at its disposal an area equivalent to 12 percent of the European Community territory; it harbors 40 percent of its flora (as many varieties in Alpes Maritimes alone as in whole of Great Britain!); and it ranks second in Europe, behind the USSR, for the diversity of its mammals.

It is well positioned for: per capita consumption of water or energy or free product [franc produit]; area in available natural spaces; its ability to process toxic industrial wastes; the salubrity of its beaches; and exposure to acid rains. It holds an average position for: the consumption of per hectare of fertilizers and pesticides; the processing of household wastes; and the quality of river water and of the air in towns. But on that last item, it is currently being overtaken.

On the other hand, France is presently behind for: transport-generated pollution (unlead gasoline and catalytic converters); the fight against noise; sanitation (two-thirds of Frenchmen live in houses not connected to a purification station); forest fire prevention; and the placing under "strong protection" (national parks, natural reserves) of parcels of its territory.

To alleviate these shortcomings, the "Green Plan" is considering several goals between now and the year 2000: firstly, to reduce emissions of sulfur dioxide; then, to stabilize emissions of carbon dioxide with the help of a strengthened tax system, in order not to reinforce the famous "greenhouse effects." A particular effort will be made with regard to sanitation. At the rate of an additional Fr7.5 billion, injected annually, the objective is to double the percentage of inhabitants connected to a purification station (from one-third to two-thirds as in

the FRG). This effort should result in a twofold increase in the price of water during the forthcoming decade.

With regard to waste, the plan calls for a stop to the incineration at sea of toxic industrial wastes and the reduction by half of the evacuation at sea of sanitation sludge. One thousand "waste centers" (collecting centers for "cumbersome items" which do not fit into trash cans) are to be installed. Recycling is anticipated for 15 percent of the household waste collected in towns and 50 percent for industrial wastes, as compared to 30 percent currently.

NORWAY

Coastal Forest Damage Described, Assessed

90WN0131A Oslo AFTENPOSTEN in Norwegian
2 Jun 90 p 40

[Article by Lene Skogstrom: "Coastal Forests Are Scorched"—first paragraph is AFTENPOSTEN introduction]

[Text] In belts dozens of kilometers wide, the forests of South Norway are scorched or discolored. The scorching damage has occurred in areas that are most affected by acid rain. In Kvinesheia the white fir trees are dead from the roots to the tips.

For the first time, the scorching damage coincides with the forest regions of South Norway that receive the brunt of the pollution and acid rain that is transported long distances from foreign countries.

Whether or not this is a coincidence, the experts cannot yet say. Last year totally different forest regions were damaged.

Preliminary reports and observations, continuously coming in at the Norwegian Institute of Forestry Research (NISK) at As, indicate that the damage is more extensive than last year. Professor Kare Venn of NISK stressed that it was too early to say whether 1990 will be a worse year for forest damage than 1989.

Dozens of Kilometers Wide

Scorched forests are found in a belt dozens of kilometers wide along the eastern side of Oslo Fjord, from the Inner Oslo Fjord through Ostfold and a good way down along the Swedish coast. Some parts of Telemark have also been affected and from there the damage stretches in a continuous belt down the Sorland coast. In Sorland, however, the trees are more discolored than actually

scorched. The third forest region that is affected is the coastal belt from Sogne Fjord to Stavanger.

So far this year, NISK has recorded reports of both scorched brown coniferous forests and deciduous trees that have not formed leaves. The "new" damage to forests in recent years has been characterized by an abnormal number of sickly trees, with sparse and sometimes yellowish crowns. The experts are hesitant to make a direct link between air pollution and the scorched and dead trees. "But we cannot rule out the possibility that the damage we are seeing this year may be occurring in trees that are predisposed to injury by the air pollution we know is being transported from foreign countries," Professor Kare Venn said.

"It is reasonable to believe that this is a contributing factor, but we are not able to say how important a factor the air pollution is."

While in many places one needs a trained eye to see the damage, there is no doubt in Jammerdal in the municipality of Kvinesdal. Here there are about 50 dead white firs along the E18 highway at Kvinesheia, a few kilometers east of Sarons Dal. "Normally I would have ordered that these trees be cut, but they will remain standing as a warning that there is something wrong in nature," said Rolv Oyslebo, forestry chief for the municipality of Kvinesdal. He has 40 years of experience in forestry work, but has never seen anything like this. "Acid rain may be the cause of the dead trees," the forestry chief said.

"There have been white firs in the area for 80 years. They have shown no signs of disease in the past. What frightens me most is that common Norwegian pines in the same area are also showing strong symptoms of disease," Oyslebo said, pointing to a pine that had not a single green needle on its branches. A few years ago, the forests here were healthy. Now most of the coniferous trees have been damaged and show signs of scorching. The water in the area is so acidified that lime must be added in order for the fish to survive.

NISK was sent gene samples from the sick trees. The results state that the symptoms are not typical of those normally found in Norwegian firs. In Jammerdal the trees are dead from their roots to their tips, while it is normally only the tips that are affected. The experts are facing the complex task of finding the cause of this damage to the forests. In addition to air pollution, other stress factors include climatic factors such as frost, lack of water, and wind, as well as fungus and insect infestations, soil conditions, and spraying. Trees that are affected by air pollution are less resistant to other "natural" threats.

22161

25

NTIS

ATTN: PROCESS 103
5285 PORT ROYAL RD
SPRINGFIELD, VA

22161

This is a U.S. Government publication. It represents the policies, views, or attitudes of the U.S. Government. Users of this publication may cite FBIS or JPRS provided they do so in a manner clearly identifying them as the secondary source.

Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available sources. It should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are transcribed. Except for excluding certain diacritics, FBIS renders personal and place-names in accordance with the romanization systems approved for U.S. Government publications by the U.S. Board of Geographic Names.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by FBIS/JPRS. Processing indicators such as [Text] or [Excerpts] in the first line of each item indicate how the information was processed from the original. Unfamiliar names rendered phonetically are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear from the original source but have been supplied as appropriate to the context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by the source. Passages in boldface or italics are as published.

SUBSCRIPTION/PROCUREMENT INFORMATION

The FBIS DAILY REPORT contains current news and information and is published Monday through Friday in eight volumes: China, East Europe, Soviet Union, East Asia, Near East & South Asia, Sub-Saharan Africa, Latin America, and West Europe. Supplements to the DAILY REPORTs may also be available periodically and will be distributed to regular DAILY REPORT subscribers. JPRS publications, which include approximately 50 regional, worldwide, and topical reports, generally contain less time-sensitive information and are published periodically.

Current DAILY REPORTs and JPRS publications are listed in *Government Reports Announcements* issued semimonthly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 and the *Monthly Catalog of U.S. Government Publications* issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The public may subscribe to either hardcover or microfiche versions of the DAILY REPORTs and JPRS publications through NTIS at the above address or by calling (703) 487-4630. Subscription rates will be

provided by NTIS upon request. Subscriptions are available outside the United States from NTIS or appointed foreign dealers. New subscribers should expect a 30-day delay in receipt of the first issue.

U.S. Government offices may obtain subscriptions to the DAILY REPORTs or JPRS publications (hardcover or microfiche) at no charge through their sponsoring organizations. For additional information or assistance, call FBIS, (202) 338-6735, or write to P.O. Box 2604, Washington, D.C. 20013. Department of Defense consumers are required to submit requests through appropriate command validation channels to DIA, RTS-2C, Washington, D.C. 20301. (Telephone: (202) 373-3771, Autovon: 243-3771.)

Back issues or single copies of the DAILY REPORTs and JPRS publications are not available. Both the DAILY REPORTs and the JPRS publications are on file for public reference at the Library of Congress and at many Federal Depository Libraries. Reference copies may also be seen at many public and university libraries throughout the United States.